

PERSONALITY TRAITS, EMOTIONAL INTELLIGENCE AND BEHAVIOURAL BIASES OF EQUITY INVESTORS IN KERALA

Thesis
Submitted to the University of Calicut
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DOCTOR OF PHILOSOPHY IN COMMERCE

By
VIDYA A.

Under the Supervision of
Prof. (Dr.) SATHEESH E K
Registrar
University of Calicut



**DEPARTMENT OF COMMERCE AND MANAGEMENT STUDIES
SCHOOL OF BUSINESS STUDIES
UNIVERSITY OF CALICUT
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DECLARATION

I, Vidya A. do hereby declare that the thesis entitled "**Personality Traits, Emotional Intelligence and Behavioural Biases of Equity Investors in Kerala**" is a bonafide record of research work done by me under the guidance of Prof. (Dr.) SATHEESH EK, Registrar, University of Calicut. I further declare that the thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship, or other similar title of recognition.

University of Calicut

Date:



VIDYA A.



**Department of
Commerce and Management Studies
School of Business Studies
University of Calicut**
Calicut University P.O. PIN - 673 635 Kerala, India

Prof. (Dr.) Satheesh E K
Registrar
University of Calicut

Mob No.: 9400441150
Email: eksatheesh@gmail.com

Certificate


This is to certify that the thesis entitled “**Personality Traits, Emotional Intelligence and Behavioural Biases of Equity Investors in Kerala**” submitted to the University of Calicut in partial fulfillment of the requirements for the award of the Degree of Philosophy in Commerce, is a bonafide record of research work carried out by Ms. Vidya A. under my supervision and guidance and no part of this thesis has formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title to any candidate in any university. She is permitted to submit the thesis to the University for Evaluation.

The thesis is revised as per the modifications and recommendations reported by the adjudicators. Soft copy attached is the same as that of the revised copy.

University of Calicut

Date:




Prof. (Dr.) Satheesh EK
Supervising Teacher

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Vidya A
Part-Time Research Scholar
DCMS, University of Calicut, Kerala

Prof. (Dr.) Satheesh E K
Registrar & Research Supervisor
University of Calicut, Kerala

ABSTRACT

Equity investing is one of the most important investment options available on the Indian stock market. Although it carries a high level of risk, it also provides a higher return. Many factors, including market mood, the nation's economic state, corporate performance, and the political climate of the economy, affect equity investments. To reduce risk and get a good return on their investment in the stock market, investors need to be aware of all the variables. Behavioral finance explains how investors' psychology impacts their financial decisions and how it affects market volatility. When investors are influenced by various emotions and sentiments, it may create opportunities for other investors. Personality traits, emotional intelligence, and other characteristics that make each individual distinctive also have a big impact on investing decisions. Research studies pertaining to the stock market indicate that investors are significantly impacted by a range of behavioral biases. They choose investments irrationally due to behavioral biases. Investors have a strong tendency to base their selections on behavioral patterns that are greatly impacted by illogical choices. The main objectives of the present study were: (1) To examine the personality traits and emotional intelligence of the equity investors in Kerala. (2) To analyze the levels of behavioral biases demonstrated by equity investors in Kerala. (3) To identify the relationship between emotional intelligence and investment performance using behavioral biases as mediating factors. (4) To extract the mediating role of risk tolerance in the relationship between investment personality traits and the investment performance of equity investors in Kerala. (5) To analyze the levels and causal connections between investment performance and reinvestment decisions of equity investors in Kerala.

The present research is both descriptive and analytical in nature. The study is based on both primary and secondary data. Primary data is collected through a structured questionnaire from equity investors in Kerala. The secondary data was collected from various books, journals, websites, etc. 416 equity investors from six selected districts in Kerala were selected for the study. The pilot study and pretest were conducted to check the validity, reliability, and normality requirements. The primary data have been analyzed using statistical tools such as percentage analysis, mean, standard deviation, independent sample 't' test, one-way ANOVA, Tukey's HSD post-hoc, Chi square test of goodness of fit, confirmatory analysis, structural equation modeling, etc.

The report of the research work is presented in nine chapters. The first chapter includes an introduction, statement of problems, objective, and hypothesis. In the second chapter, exhibit the relevant reviews of literature. The third chapter provides a summary of concepts and theories related to the research area. The fourth chapter provides a comprehensive explanation of the research methodology employed in the study. The chapter explains the sample design, scale development and validation processes, and various statistical tools used for data analysis. The fifth chapter focuses on measuring the level of investment personality traits and emotions of the investors. In the sixth chapter, an attempt is made to examine whether there is any association between the level of personality traits and the level of behavioral biases of investors. The association between the level of personality traits

and the level of emotional intelligence is also examined. The sixth chapter has two parts. The first part studies the mediating effects of behavioral biases in the relationship between emotional intelligence and investment performance. The second part studies the role of risk tolerance as a mediator between investment personality traits and the investment performance of equity investors. SEM and the bootstrapping method are used for the analysis. The seventh chapter examines the level of investment performance and reinvestment decisions. The eighth chapters include the major findings of the study, presented in different sections, and the conclusion of the study. The ninth chapter contains recommendations based on the findings of the study, the implications of the study, and the scope for further research.

Research indicates that among equity investors in Kerala, emotional biases are the most common type of behavioral bias, followed by cognitive bias. Male and female investors have differences in the various behavioral biases exhibited by them. Behavioral biases such as anchoring biases, overconfidence biases, cognitive dissonance biases, etc. are more highly affected by male investors than females. Females are highly affected by loss-aversion biases. Personality traits and the behavioral biases of investors are correlated. The extroversion personality traits significantly influence the overconfidence behavior of investors. There is a significant impact of conscientiousness traits on investors' overconfidence bias, which suggests that optimistic, social, and strong-willed investors are self-confident and rely on their own abilities. Herd behavior is significantly influenced by neuroticism personality traits. The findings also show that negative emotions such as anxiety and tension reduce individuals self-confidence regarding their capabilities and value others advice over their own. Investors who exhibit a higher degree of openness as a personality trait tend to show a greater propensity for both overconfidence bias and loss aversion bias. Investors with higher levels of agreeableness personality traits are more likely to exhibit overconfidence bias, herd bias, and anchoring bias. The investment performance of the equity investors is directly influenced by their personality traits. Investors with positive personality traits have a high risk-bearing capacity, which leads to better investment performance. Investors with negative personalities have poor risk-bearing capacity, which leads to poor investment performance. Risk-bearing capacity exists as a mediator in the relationship between personality traits and investment performance. While increasing the risk-bearing capacity of the investors, their investment performance also increased.

The result of the study will contribute to educating individual investors about the behavioral biases that influence their investment decision-making. It will support the investment managers in developing strategies that reduce the adverse effects of these influences. Stock brokers and mutual fund companies would be able to identify cognitive and emotional biases that highly influence investors. The findings of the study are also useful for policymakers and financial companies because they can keep an eye on the various behavioral traits of investors before issuing securities. Investment advisors must be aware of the significant factors that affect investors' decision-making in order to provide them with appropriate advice that will protect their investment. they can also make use of this research to "create behavioral portfolios" according to their clients' personalities and levels of emotional intelligence.

Keywords: personality traits, Emotional intelligence, Behavioural biases, investment performance.



**കേരളത്തിലെ ഇക്വിറ്റി നിക്ഷേപകരുടെ വ്യക്തിത്വ സവിശേഷതകൾ,
വൈകാരിക ബുദ്ധി, ബിഹേവിയറൽ ബയാസുകൾ**

വിദ്യ എ.
പാർട്ട്-ടൈം ഗവേഷക

പ്രൊഫ. (ഡോ.) സതീഷ് ഇ.കെ.
രജിസ്ട്രാർ, ഗവേഷണ മാർഗ്ഗദർശി

സംഗ്രഹം

ഇന്ത്യൻ ഓഹരി വിപണിയിൽ ലഭ്യമായ ഏറ്റവും പ്രധാനപ്പെട്ട നിക്ഷേപ സാധ്യതകളിലൊന്നാണ് ഇക്വിറ്റി നിക്ഷേപം. രാജ്യത്തിന്റെ സാമ്പത്തിക സ്ഥിതി, കോർപ്പറേറ്റ് പ്രകടനം, രാഷ്ട്രീയസ്വാധീനം തുടങ്ങിയ ഘടകങ്ങൾ ഇക്വിറ്റി നിക്ഷേപങ്ങളെ ബാധിക്കുന്നു. റിസ്ക് കറയ്ക്കുന്നതിനും ഓഹരി വിപണിയിൽനിന്ന് നല്ല വരുമാനം ലഭിക്കുന്നതിനും വേണ്ടി നിക്ഷേപകർ മുകളിൽ പറഞ്ഞ കാര്യങ്ങളെക്കുറിച്ച് കൂടുതൽ ബോധവാൻമാരായിരിക്കേണ്ടതാണ്. നിക്ഷേപകരുടെ മനഃശാസ്ത്ര അവരുടെ സാമ്പത്തിക തീരുമാനങ്ങളെ വളരെയധികം സ്വാധീനിക്കുന്നുണ്ട്. നിക്ഷേപകർ വിവിധ വികാര-വിചാരങ്ങളാൽ സ്വാധീനിക്കപ്പെടുമ്പോൾ അത് മറ്റ് നിക്ഷേപകർക്ക് അവസരങ്ങൾ സൃഷ്ടിച്ചേക്കാം. ബിഹേവിയറൽ ബയാസിന്റെ ഒരു ശ്രേണിതന്നെ നിക്ഷേപകരുടെ പെരുമാറ്റത്തെ സ്വാധീനിക്കുന്നുണ്ട് എന്നതാണ് സ്റ്റോക്ക്മാർക്കറ്റുമായി ബന്ധപ്പെട്ട ഗവേഷണപഠനങ്ങൾ സൂചിപ്പിക്കുന്നത്. വിവിധങ്ങളായ ബിഹേവിയറൽ ബയാസുകൾ കാരണം നിക്ഷേപകർ യുക്തിരഹിതമായ നിക്ഷേപങ്ങൾ തിരഞ്ഞെടുക്കുന്നു.

ഈ പഠനത്തിന്റെ പ്രധാന ലക്ഷ്യങ്ങൾ ഇവയാണ്: (1) കേരളത്തിലെ ഇക്വിറ്റി നിക്ഷേപകരുടെ വ്യക്തിത്വ സവിശേഷതകളും വൈകാരിക ബുദ്ധിയും പരിശോധിക്കുക. (2) കേരളത്തിലെ ഇക്വിറ്റി നിക്ഷേപകർ പ്രകടമാക്കുന്ന ബിഹേവിയറൽ ബയാസിന്റെ അളവ് വിശകലനം ചെയ്യുക. (3) ബിഹേവിയർ ബയാസുകളെ മധ്യസ്ഥ ഘടകങ്ങളായി ഉപയോഗിച്ച് വൈകാരിക ബുദ്ധിയും നിക്ഷേപ പ്രകടനവും തമ്മിലുള്ള ബന്ധം തിരിച്ചറിയുക. (4) നിക്ഷേപ വ്യക്തിത്വ സവിശേഷതകളും കേരളത്തിലെ ഇക്വിറ്റി നിക്ഷേപകരുടെ നിക്ഷേപ പ്രകടനവും തമ്മിലുള്ള ബന്ധത്തിൽ റിസ്ക് ടോളറൻസിന്റെ മധ്യസ്ഥ പങ്ക് വേർതിരിച്ചെടുക്കുക. (5) കേരളത്തിലെ ഇക്വിറ്റി നിക്ഷേപകരുടെ നിക്ഷേപ പ്രകടനവും പുനർനിക്ഷേപ തീരുമാനങ്ങളും തമ്മിലുള്ള ഡെലേറ്റുകളും കാര്യകാരണ ബന്ധങ്ങളും വിശകലനം ചെയ്യുക.

ഈ ഗവേഷണം വിവരണാത്മകവും വിശകലനപരവുമാണ്. പ്രാഥമികവും ദ്വിതീയവുമായ വിവരങ്ങളെ അടിസ്ഥാനമാക്കിയുള്ളതാണ് പഠനം. കേരളത്തിലെ ഇക്വിറ്റി നിക്ഷേപകരിൽ നിന്ന് ചോദ്യാവലി വഴിയാണ് പ്രാഥമിക വിവരങ്ങൾ ശേഖരിച്ചത്. വിവിധ പുസ്തകങ്ങൾ, ജേണലുകൾ, വെബ്സൈറ്റുകൾ മുതലായവയിൽ നിന്നാണ് ദ്വിതീയ വിവരങ്ങൾ ശേഖരിച്ചത്. കേരളത്തിലെ തിരഞ്ഞെടുത്ത ആറ് ജില്ലകളിൽ നിന്നുള്ള 416 ഇക്വിറ്റി നിക്ഷേപകരാണ് പഠനത്തിനായി തിരഞ്ഞെടുത്തത്. സാധ്യത, വിശ്വാസ്യത എന്നിവ പരിശോധിക്കുന്നതിനാണ് പൈലറ്റ് പഠനവും പ്രീടെസ്റ്റും നടത്തിയത്. ശതമാനം വിശകലനം, ശരാശരി, സ്റ്റാൻഡേർഡ് ഡീവിയേഷൻ, ഇൻഡിപെൻഡൻ്റ് സാമ്പിൾ 'ടി' ടെസ്റ്റ്, വൺ-വേ ANOVA, Tukey's HSD പോസ്റ്റ്-ഹോക്ക്, കൈ സ്ക്വയർ ടെസ്റ്റ് ഓഫ് ഗുഡ്നെസ് ഓഫ് ഫിറ്റ്, കൺഫർമേറ്ററി അനാലിസിസ്, സൂക്ചറൽ ഇക്വേഷൻ മോഡലിംഗ് തുടങ്ങിയ സ്റ്റാറ്റിസ്റ്റിക്കൽ ടൂളുകൾ ഉപയോഗിച്ചാണ് പ്രാഥമിക ഡാറ്റാ വിശകലനം ചെയ്തത്.

ഈ ഗവേഷണ പ്രബന്ധം ഒമ്പത് അധ്യായങ്ങളിലായി അവതരിപ്പിച്ചിരിക്കുന്നു. ആദ്യ അധ്യായം ഗവേഷണറിപ്പോർട്ടിന്റെ ആമുഖഭാഗമാണ്. ഇത് പഠനത്തിന്റെ പ്രാധാന്യം, ഗവേഷണപ്രശ്നത്തിന്റെ പ്രസ്താവന, ഗവേഷണ ചോദ്യങ്ങൾ, ലക്ഷ്യങ്ങൾ, അനുമാനങ്ങൾ, ആശയങ്ങളുടെ പ്രവർത്തന നിർവ്വചനം എന്നിവ ഉൾക്കൊള്ളുന്നു. ഈ പഠനവുമായി ബന്ധപ്പെട്ട

മുൻകാലപഠനങ്ങളുടെ അവലോകനമാണ് രണ്ടാം അധ്യായത്തിൽ ഉൾപ്പെടുത്തിയിരിക്കുന്നത്. ഗവേഷണമേഖലയുമായി ബന്ധപ്പെട്ട ആശയങ്ങളുടെയും സിദ്ധാന്തങ്ങളുടെയും സംഗ്രഹം മൂന്നാമത്തെ അധ്യായത്തിൽ നൽകുന്നു. നാലാമത്തെ അധ്യായം പഠനത്തിൽ ഉപയോഗിക്കുന്ന ഗവേഷണ രീതിയുടെ സമഗ്രമായ വിശദീകരണം നൽകുന്നു. സാമ്പിൾ ഡിസൈൻ, സ്പെയിൽ വികസനം, മൂല്യനിർണ്ണയ പ്രക്രിയകൾ, ഡാറ്റാ വിശകലനത്തിനായി ഉപയോഗിക്കുന്ന വിവിധ സ്റ്റാറ്റിസ്റ്റിക്കൽ ടൂളുകൾ എന്നിവ ഈ അധ്യായത്തിൽ വിശദീകരിക്കുന്നു. അഞ്ചാം അധ്യായം നിക്ഷേപകരുടെ വ്യക്തിത്വ സവിശേഷതകളും നിക്ഷേപകരുടെ വികാരങ്ങളും അളക്കുന്നതിൽ ശ്രദ്ധകേന്ദ്രീകരിക്കുന്നു. ആറാമത്തെ അധ്യായത്തിൽ, നിക്ഷേപകരുടെ വ്യക്തിത്വ സവിശേഷതകളും ബിഹേവിയറൽ ബയാസുകളും തമ്മിൽ എന്തെങ്കിലും ബന്ധമുണ്ടോ എന്ന് പരിശോധിക്കുന്നു. ഏഴാം അധ്യായം നിക്ഷേപ പ്രകടനത്തിന്റെ നിലവാരവും പുനർനിക്ഷേപ തീരുമാനങ്ങളും പരിശോധിക്കുന്നു. എട്ടാം അധ്യായത്തിൽ പഠനത്തിന്റെ പ്രധാന കണ്ടെത്തലുകളും നിഗമനങ്ങളും ഉൾപ്പെടുത്തിയിരിക്കുന്നു. ഒമ്പതാം അധ്യായത്തിൽ ഈ പഠനത്തിന്റെ പ്രധാന കണ്ടെത്തലുകളെ അടിസ്ഥാനമാക്കിയുള്ള ശുപാർശകളും, കൂടുതൽ ഗവേഷണത്തിനുള്ള സാധ്യതകളും ഉൾപ്പെടുത്തിയിരിക്കുന്നു.

ഈ പഠനത്തിന്റെ പ്രധാന കണ്ടെത്തലുകൾ: (1) കേരളത്തിലെ ഇക്വിറ്റി നിക്ഷേപകർക്കിടയിൽ ഇമോഷണൽ ബയാസാണ് കൂടുതലായി കാണപ്പെടുന്നത്. രണ്ടാമതായി കാണപ്പെടുന്നത് കൊൺഫിഡൻസ് ബയാസുകളാണ്, (2) ഓവർ കോൺഫിഡൻസ് ബയാസ്, കൊൺഫിഡൻസ് ഡിസൊണൻസ് ബയാസ്, ആങ്കറിംഗ് ബയാസ് തുടങ്ങിയ ബയാസുകൾ പുരുഷനിക്ഷേപകരിലാണ് കൂടുതൽ കാണപ്പെടുന്നത്. ലോസ് അവേർഷൻ ബയാസാണ് സ്ത്രീ നിക്ഷേപകരെ കൂടുതൽ ബാധിക്കുന്നത്. (3) നിക്ഷേപകരുടെ വ്യക്തിസവിശേഷതകളും ബിഹേവിയറൽ ബയാസും പരസ്പരബന്ധിതമാണ്. (4) അമിത എക്സ്പോഷൻ വ്യക്തിത്വ സ്വഭാവം നിക്ഷേപകരിൽ അമിത ആത്മവിശ്വാസം വർദ്ധിപ്പിക്കുന്നതായി ഈ പഠനം കണ്ടെത്തുന്നു. (5) ഉത്കണ്ഠ, പിരിമുറുക്കം പോലുള്ള നിഷേധാത്മകമായ വികാരങ്ങൾ ന്യൂറോട്ടിസം, വ്യക്തിത്വസ്വഭാവമുള്ളവരിൽ കൂടുതലായി കാണപ്പെടുന്നു. (6) ഉയർന്ന അഗ്രിബ്ൾനെസ്സ് സ്വഭാവം നിക്ഷേപകരിൽ അമിത ആത്മവിശ്വാസം വളർത്തുന്നതായി പഠനം തെളിയിക്കുന്നു. (7) പോസിറ്റീവ് വ്യക്തിത്വ സ്വഭാവം നിക്ഷേപകർക്കിടയിൽ റിസ്ക് എടുക്കുന്നതിനുള്ള ശേഷിയും അവരുടെ നിക്ഷേപപ്രകടനത്തെയും പോസിറ്റീവായി സ്വാധീനിക്കുന്നു.

നിക്ഷേപങ്ങൾ നടത്തുമ്പോൾ നിക്ഷേപകരെ ബാധിക്കുന്ന ബിഹേവിയറൽ ബയാസുകളെക്കുറിച്ച് ബോധവാന്മാരാക്കാൻ ഈ പഠനം സഹായിക്കുന്നു. സ്റ്റോക്ക് ബ്രോക്കേജിന് ഈ പഠനറിപ്പോർട്ട് ഉപയോഗിച്ച് നിക്ഷേപകർക്കായി പുതിയ ട്രേഡിംഗ് തന്ത്രങ്ങൾ വിഭാവനം ചെയ്യുന്നതിന് സഹായിക്കുന്നു. നിക്ഷേപകരുടെ വ്യക്തിത്വത്തിന്റെയും വൈകാരികബുദ്ധിയുടെയും നിലവാരത്തിനനുസൃതമായി ബിഹേവിയറൽ പോർട്ട്ഫോളിയോകൾ സൃഷ്ടിക്കാൻ ഈ ഗവേഷണം ഉപയോഗപ്പെടുത്താൻ കഴിയും.

Keywords: വ്യക്തിത്വ സവിശേഷതകൾ, വൈകാരിക ബുദ്ധി, ബിഹേവിയറൽ ബയാസ്, നിക്ഷേപ പ്രകടനം



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List of Abbreviation

ANOVA	-	Analysis of Variance
AVE	-	Average Variance Extracted
BAPM	-	Behavioural Asset Pricing Model
BFMA	-	Behavioural Finance Macro Approach
BFMI	-	Behavioural Finance Micro Approach
BPT	-	Behavioural Portfolio Theory
BSE	-	Bombay Stock Exchange
CAPM	-	Capital Asset Pricing Model
CDSL	-	Central Depository Services Limited
CFA	-	Confirmatory Factor Analysis
CFI	-	Comparative Fit Index
CMIE	-	Centre for Monitoring Indian Economy
EFA	-	Exploratory Factor Analysis
EMH	-	Efficient Market Hypothesis
FDI	-	Foreign Direct Investment
GDP	-	Gross Domestic Product
GFI	-	Goodness of Fit Index
IFRS	-	International financial reporting standard
IP	-	Investment Performance
KMO	-	Kaiser-Meyer-Olkin
MACD	-	Moving Average Convergence Divergence
MPT	-	Modern Portfolio Theory
MVPT	-	Mean Variance Portfolio Theory
NFI	-	Normed Fit Index

NISAM	-	National institute of securities market
NSDL	-	National Securities Depository Limited
NSE	-	National Stock Exchange
RBI	-	Reserve Bank of India
S&P BSE	-	Standard & Poor's BSE Sensitive Index
S&P CNX	-	Standard & Poor's CRISIL and NSE Index Fifty
SD	-	Standard Deviation
SEBI	-	Securities and Exchange Board of India
SEM	-	Structural Equation Modelling
SPSS	-	Statistical Package for Social Sciences
SSIM	-	Sharpe's Single Index Model
TRIN	-	Trading index
VAR	-	Value at risk
VIX	-	Volatility index
YTM	-	Yield to maturity

Chapter I

Introduction

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1.1 INTRODUCTION

Investment is an important component of financial planning, and it also plays an important role in a county's economic growth. Fisher & Jordan (2006) define investment as a commitment of funds made with the expectation of getting a good return. This return often depends upon the maturity period, the nature of the investment and many other factors. Investment decisions simply means allocation of money to get best return on investment. An investment decision is made while considering factors such as the objectives of the investment, the type of investment, risk appetite, return expectations, etc. The investment process includes mainly four stages such as (1) the formulation of an investment goal (2) determining a risk profile (3) allocating resources and (4) monitoring the performance of investment sources. Investment sources are profitable if the investor makes right decision to invest at the right time and from the right source. To be successful in investing at the secondary market an investor must understand the risk associated with the investment the return offered by the investment avenue and the financial strength of the company in which they are proposing to invest. Due to the possibility of high financial loss and the high cost of revising an investment decision, it is frequently advisable to understand as much as possible about the market before investing to ensure financial security in the future.

1.1.1 Factors Affecting Investment Decision-Making Process

Investment decisions are highly complex because of the wide variety of investment avenues in the financial market. Therefore, it is essential to assess the important factors affecting investment decisions. There are mainly four dimensions to investments such as risk, liquidity, return, and time. The return from an investment

often depends upon the maturity period, the nature of the investment and a number of other factors. The ability to accept risk is another factor that influences the choice of investment avenue. Each investment opportunity has a percentage of risk and return attached to it, but the investor will choose the opportunity based on his capacity to accept the risk. The important factors affecting the investment decision of an investor are demographic factors such as age, gender, educational qualifications etc. The other psychological factors that affect investment decisions are personality, emotional intelligence etc. In addition to all this various judgement errors also affect investors' decision-making. Behavioral factors often depend on the emotions of an investor. This factor also plays a very important role in the investment decision-making process of retail investors.

1.1.2 Investment in Stock Market

A nation's economic prosperity is significantly influenced by its stock market. National growth and capital appreciation are essential for an economy with a well-organized stock market. The stock market helped to mobilize savings from households to corporations and promote the development of the manufacturing and service sectors. In terms of return, the Indian stock exchange is one of the best in the world, But the equity culture is not common among individual investors, merely 2% of the population is invested in the stock market. High risk and market volatility are the important reasons why investors avoid stock investments.

Investors' psychology plays a very important role in making investment decisions. Behavioural finance explains how investors' psychology impacts their financial decisions and how it affects market volatility. When investors are influenced by various emotions and sentiments, it may create opportunities for other investors. Individuals' unique factors, such as personality, emotional intelligence etc. also significantly influence investment choice. Stock market-related research studies show that investors are highly affected by various behavioural biases. Behavioural biases lead them to make irrational investment decisions. Usually, investors have a significant inclination to make decisions based on behavioural patterns that are highly

affected by irrational decisions. The present study attempts to examine how investors' personalities and emotional intelligence and their investment performance are related.

1.1.3 Behavioural Finance

Shefrin (2000) defines behaviour finance as the interaction of the psychology of investors with their financial behaviours and investment performance. He suggested that investors should be aware of their own and their counterparts' mistakes in investment decisions. Shefrin (2000) claimed that one investor's error can lead to another investor's profit. According to Barber and Odean (1999), humans routinely deviate from making the best decisions. By incorporating these features of human nature into financial models, behavioural finance improves general understanding.

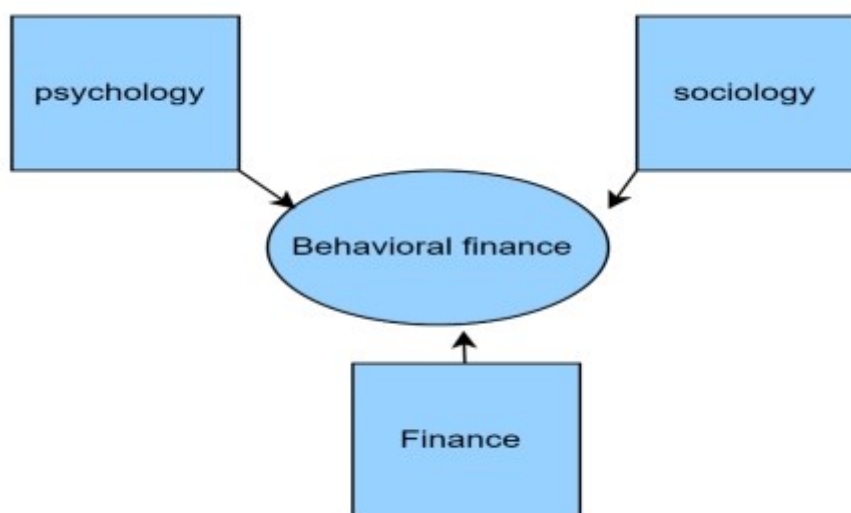
According to behaviour finance theory, investors exhibit psychological and emotional biases that lead to deviations from rational decisions (Yoong and Ferreira, 2013). According to Pompain (2012) people's predisposition to make wrong investment decisions is a result of mental decline. The objective of behavioural finance is to understand how people behave while making financial decisions and how they make investment decisions (Werner Debondt et al. 2010). Behavioural finance attempts to understand how psychological factors affect investment decision-making. Shefrin(2001).It also take in to account the motivation and feeling of individual as well as the human emotions connected to financial decision making (Mitroi and Oproiu, 2014). It fails to explain economic phenomena like dot-com bubbles in Japan and market crashes in Taiwan and the U.S.

As a new emerging field of study, it combines finance with psychology and sociology. In the literature, behavioural finance is discussed from various viewpoints. The figure shown below demonstrates the importance of the interconnection between behavioural finance and other subjects such as psychology, sociology and finance. Psychology is the study of the mental or behavioural features of an individual or a group of people. Sociology is the study of human social conduct and social groups. The primary focus of this discipline is how social relationships affect people's attitudes and behaviours. The finance discipline deals with decision-making and

value-setting. The main focus of this discipline is how to raise capital and its management.

Figure 1.1

Behavioural Finance (Schindler, 2007)



Behavioural finance argues that the behavior and mood of individuals play significant role in their decision-making. Since human beings are not rational in their decision-making, sometimes irrationality due to various emotions affects their investment decisions. Sentiment, limits to arbitrage, behavioral preference, etc. are the important factors that affect investors' rationality. In behavioural finance, there are two subfields, such as:

Behavioural Finance Micro: This branch deals with the behaviour of individual investors. Here we study the features of rational investors.

Behavioural Finance Macro: Behavioural finance at the macro level addresses the anomalies in the stock exchange . So this model tries to examine the drawbacks of EMH, the CAPAM model, Markowitz portfolio theory etc.

1.1.4 Investor Behaviour

Various psychological heuristics and biases influence the behaviour of investors, while researching investment behaviour, we make an effort to comprehend both the

micro level (which includes the decision-making processes of individuals and groups) and the macro level (the role of the financial market). Both the quantitative and qualitative aspects of an investor's decision-making process are influenced by the characteristics of financial services and the quality of financial products. The study of investor behavior is mainly based on psychological processes and emotional problems that traders face while making financial decisions. Investors base their selection on a variety of factors including past performance, personal preference and experience etc. They establish shortcuts or heuristics that may save time but lead to sub optimal decisions. While taking into consideration the irrationality theory, researchers reveal that investors in the financial markets do not act rationally. Their investment decisions are influenced by demographic factors, heuristic factors, and investment biases (Kumar and Lee, 2006; Baker and Wurgler, 2007; Gärling et al., 2009; Barnea et al., 2010). Since investors' decisions to buy or sell shares at some point may be irrational and may create the worst-case scenario of a stock market collapse (Shiller, 1987), it may badly affect the whole economy. Speculative market bubbles and market anomalies occur because of the irrational behaviour of investors (Koch and Nafziger 2016).

Understanding investor behaviour is very complex. The availability of information, news, rumors, attitude, preference, risk prominence, etc. are the important components that determine investment behaviour. Various behavioural biases, psychological factors, etc. also affect the investment decision. While understanding the various biases exhibited by investors, practitioners can advise them to make the correct investment decision.

1.1.5 Behavioural Biases

Behavioural biases simply mean irrational beliefs or thoughts that can unconsciously affect our decision-making. These biases become part of our personality, attitude and also affect our daily activities. Investors exhibit a variety of behavioural biases that affect their decision-making. Although biases cannot entirely be avoided, they can be minimized. To achieve this one must be aware of their behavioural biases and fight the urge to act in that way. Biases are generally classified into two categories:

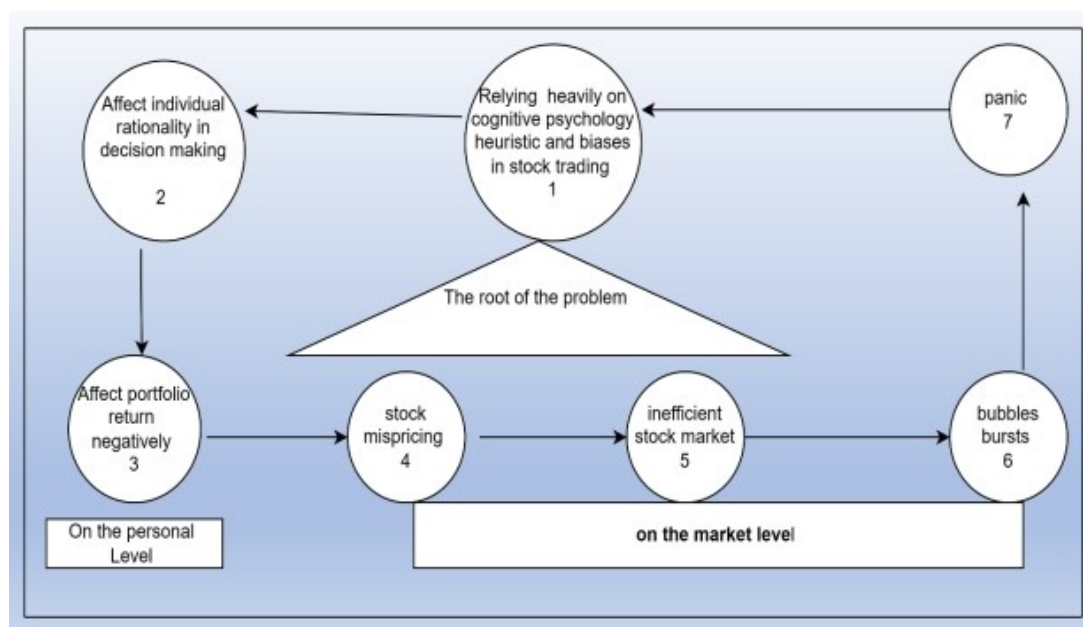
emotional and cognitive biases.

Emotional biases:- This biases occur from our feeling rather than hard facts. Important emotional biases are loss aversion biases, self-control biases, optimistic biases, regret aversion, status quo biases, etc. To identify these biases is difficult, because they arise from the intuition of a person (Pompin 2006). Cognitive biases arose while processing the information that was already available to us. These biases occur when the investor is not fully aware of all the relevant details about a problem. Some cognitive biases are conservatism bias, representativeness bias, mental accounting bias, illusion of control bias, etc.

The diagram below summaries the circle of negative consequences on the personal and market levels due to relying mostly on intuitions while making investment decisions

Figure 1.2

The circle of negative consequences of relying heavily on heuristics



Source: Alsedrah, I., & Ahamed, N. (2014). Behavioural Finance: The Missing Piece in Modern finance. First Middle East Conference on Global Business, Economics, Finance and Banking, Dubai

The above chart depicts how behavioural biases affect individual investors and the stock exchange . Behavioural biases affect the rationality of an individual's investment

decisions and also affect the return of their portfolio. Then it affects the whole market, which leads to mispricing of stock and an inefficient market. It may create crashes and bubbles in the stock market. It leads to a panic situation in the market, which leads to irrational decisions being made among the investors, affecting the entire market. If the source of the issue is not identified, this circle of negative consequences at the individual and market levels can be repeated. So it is highly relevant to study the various behavioural biases exhibited by investors.

1.1.6 Personality and Investment Behaviour

The well-known definition of personality is “the way an individual interacts, reacts, and behaves with others and is often exhibited through measurable traits.” (Crysel et al., 2013). According to R. B. Durand et al. (2008), investors' personalities are associated with their investment choices and outcomes. Investors' personalities have an high impact on their investment behaviour (Sadi et al., 2011& Charles and Kasilingam, 2014). The five-factor model of McCare & Costa J. (1992) was treated as a pioneering model of all personality research. The five factor model comprises, openness, conscientiousness, extroversion, agreeableness and neuroticism.

1.1.6.1 Openness and Investment Decisions

Persons with this type of personality traits are imaginative, open-minded, and resourceful. These people have a magnetic attraction to beauty, originality, and fresh ideas (Gunkel, Schlaegel, Langella, & Peluchette, 2010). According to Nga and Ken Yien (2013), openness in individuals promotes a greater willingness to take unconventional rules of thumb in financial decision-making.

According to Lin (2011), herding and overconfidence bias are positively correlated with openness personality traits among Taiwanese investors. Jamshidinavind et al. (2012), through their study has a strong positive relationship with herding and overconfidence bias on the Teheran stock exchange. Pan and Satman (2013) opines that a positive correlation between the risk-tolerance levels and openness of investors' personalities. Nicholson et al. (2005) assert that people with high-openness traits are willing to take high risk in their investment. Kowert & Herman (1997) identified that

positive connection between openness traits and the risk-taking behaviour of investors.

1.1.6.2 Conscientiousness and Investment Decisions

People with conscientiousness traits are determined, well organized, highly confident, punctual, take higher risks, and are responsible. Conscientiousness individuals are actively involved in decision-making (Gunkel et al., 2010). People who are more conscious achieve their goals more frequently (R. B. Durand, Newby, Peggs, & Siekierka, 2013). Investors with conscientiousness do not rely on illusions and make thoughtful selections while choosing their investments. They become more selective in their investment choices and risk tolerance as a result of this skill. Conscientiousness investors do not rely on delusions and prudently make their investment decisions. They are more selective in their investment decision making and are ready to take risk for getting a good return. (Sadi, Asl, Rostami, Gholipour, & Gholipour, 2011).

Zaidi & Tauni (2012) found overconfidence bias and conscientiousness traits are positively correlated at the Lahore stock exchange. Lin (2011) through his study reveals that investors with conscientiousness traits are overconfident they trade very cautiously.

1.1.6.3 Extraversion and Investment Decisions

According to Leary, Illy, & Brown (2009) McCare & Costa J. (1997), investors with extraversion traits are excitement-seeking, active, optimistic, and tend to socialize in large crowds. This kind of person lacks self-management. The main features of this kind of personality are low resistance, lack of self-control and good flexibility, etc. Extraversion deliberates only positive information, which influences their assessment of the probability of success and overconfidence in financial decision-making. Mayfield (20018) through his study shows that extraverts frequently trade and have high positivity to invest more of their income in the stock market. He also discovered that risk aversion and extraversion are negatively correlated. Lin (2011) through his study, found positive relationship among the biases such as overconfidence and

herding which suggests that investors who possess this feature are more likely to stick with under performing stocks in the hopes that they will turn around. Bashire (2013), through their study, conclude that extraversion traits positively affect the overconfidence bias of investors. Additionally, the study demonstrates a strong positive association between extraversion and herd bias.

1.1.6.4 Agreeableness and Investment Decisions

According to Mayfield (2008) people with agreeableness traits are sympathetic towards others, helpful, and cooperative. Investors with agreeable traits always try to avoid conflict with others. Without offering any criticism, they accept the information offered by others (Costa & McCrae, 1992.) Investors with this trait follow herd behaviour in the market and trade stocks intensively to relieve the negative association with financial herd decisions.

1.1.6.5 Neuroticism and Investment Decisions

People with neurotic traits exhibit more fear of uncertainty, pessimism, depression, and anxiety. Neurotic people lack analytical skills, critical thinking abilities, cognitive skills, and conceptual understanding. These deficiencies increase the likelihood that that individual will fear failure while making risky choices. According to Sadi (2011) neurotics are self-centred and constantly searching for better objectives. Jamshidinavid et al. (2012), discovered that investors with these traits have a tendency to be fearful, and emotionally unstable. Bashir (2013), through their study, reveal that neuroticism traits and herd behaviour have a strong positive association.

1.1.7 Emotional Intelligence and Investment Decision

The term “emotional intelligence” was coined by Peter Salovey and John Mayer. Daniel Goleman popularized the concept. Emotional intelligence simply means the capacity to recognize, comprehend, and regulate one’s own feelings and relationships. Emotional intelligence is defined as capacity of an individual to maintain motivation and resist problems, control themselves in critical circumstances and impulsivity, postpone prosperity, empathize, and be hopeful (Aqayar and Sharifi Daramadi, 2008). The five areas of emotional intelligence identified by Daniel Goleman are:

- Self-awareness: Self-awareness is the capacity to recognize and comprehend one's feelings.
- Manage Emotions: This refers to one's capacity to control and regulate one's emotions.
- Motivation: This is the inner drive that forces individuals to take action.
- Empathy: Empathy is the capacity to comprehend the emotions of others.
- Social Skills: The capacity to establish and maintain good relation with others.

1.2 SIGNIFICANCE OF THE STUDY

Traditional finances theory show that investors are rational when making investment decisions. But various research studies reveals that investors are not rational, their limited capacity for decision-making and analysis leads them to make irrational decisions. So it is necessary to study the psychological aspects of investor's investment decision-making.. Traditional finance theories are unable to fully describe the NSE and BSE market environments in India. Investors in the Indian stock market heavily rely on the data and advice of qualified professionals while making investment decisions. It might cause the investors to exhibit a variety of behavioural biases. Capital market bubbles in 1990 were mainly due to the behavioural biases of investment managers (Dass Massa and Patgiri).

The primary motive behind every investor is to maximise wealth, retain liquidity, and reduce risk (Obamuyi 2013). When investors make logical investment decisions, these investment goals can be achieved. Psychological biases are the main obstacle to making rational investment decisions, so investors should try to eliminate these biases. Investors with behavioural biases typically lack the self-confidence and expertise necessary to make wiser financial decisions. Therefore, they base their decision to invest on the opinions of experienced investors or the general behaviour of the market. Individual investment behaviour is always based on complex factors such as demographic features, personality traits, emotional intelligence factors, risk tolerance etc. The literature on behavioural finance supports the idea that there is a positive

relationship between personality traits, emotional intelligence factors, and various behavioural biases exhibited by investors. So the current study examines how behavioural biases, emotional intelligence components and personality traits affect the investment decisions of equity investors in Kerala. The result of the study will contribute to educating individual investors about the behavioural biases that influence their investment decision-making. It will support the investment managers in developing strategies that reduce the adverse effects of these influences. Stock brokers and mutual fund companies would be able to identify cognitive and emotional biases that highly influence investors. So, it helps them educate their clients on how to mitigate these biases. The study will contribute to the development of behavioural finance. The findings of the study also help investors and policymakers to create efficient portfolios that are free from various biases.

1.3 STATEMENT OF THE PROBLEM

A country's growth is determined by the extent to which investment supports capital formation. Savings from households are an important source of investment for our country, like India. Every nation promotes savings and investment among its people in order to boost the nation's economic development. The stock market plays a vital role in mobilising savings for the growth and prosperity of a nation. The growth of an economy is positively correlated with the ups and downs of the stock market. The investment choices made by investors in the secondary market are crucial in establishing market trends, which lead to the development of the whole economy. It serves as a significant and effective channel to mobilize capital for business and offers a reliable source of economic investment. There are several factors that affect investors investment decisions in the stock market.

While investing in the stock market, investors' psychology plays a very important role. Behavioural finance explains how investors' psychology impacts their financial decisions and how it affects market volatility. As a new discipline it examines the reasons for the abnormal behaviour of investors in the Indian stock market. Scholars in the domains of psychology, sociology and finance try to explain the important elements contributing to market volatility. Behavioural finance explains why standard

finance theories failed to explain different stock market abnormalities such as stock market bubbles, crashes, etc. The fastest growth of the financial market and extreme volatility and uncertainty in the market, the complexity and novelty of financial products and services, etc. may lead investors to make irrational investment decisions at the stock market. The stock market is significantly impacted by this irrational investment choice by investors. The majority of investors are reluctant to make stock market investments because of the high volatility and complexity of financial products. Behavioral finance is a new field of study that was developed to investigate investor psychology in the stock market. Individual investors are prone to various behavioural biases. They allocate their assets according to the different behavioural characteristics that they pose. This has serious implications for their short-term and long-term decisions. Wrong asset allocation hampers the investment goals of investors.

Investor behaviour often deviates from logic and reason. Emotional processes, mental mistakes, and individual personality traits complicate investment decisions. Thus, investing activity is not just analysing numbers and making decisions to buy and sell various assets and securities. A large part of investing involves individual behaviour. Ignoring or failing to grasp this concept can have a detrimental influence on portfolio performance. The majority of investors are affected by various behavioural biases in their trading. An important aspect of avoiding such biases is becoming aware of them. Thus, by avoiding behavioural biases, investors can more readily reach impartial decisions based on available data and logical processes.

The present study is drawn from the assumption that the personality traits and emotional intelligence of investors are important psychological antecedents that affect their investment behaviour and susceptibility to behavioural biases. The propensity to act irrationally when making decisions is known as susceptibility to behavioural biases. It is correlated with certain personality traits (openness, extroversion, agreeableness, conscientiousness, and neuroticism) and emotional intelligence factors among participants. Since there is limited research in the behavioural finance literature investigating the relationship between personality traits,

emotional intelligence factors, risk tolerance level, and biases that affect the investment performance and reinvestment decisions of investors,

There are only a few studies conducted in the Kerala region to assess personality and its impact on investment decisions among equity investors. Compared to the other states of India, our saving rate is very high, and we have huge funds accumulated as savings through NRIS. Despite our positive infrastructure for saving and investment, only two percent of the population in Kerala invests in the stock market. Thus, it is very important to study the influence of personality, emotional intelligence, and behavioural biases on investor investment performance among investors in Kerala.

1.4 SCOPE OF THE STUDY

Behavioural finance is a new discipline that combines finance, social sciences, and psychology to understand why people make irrational investment decisions. What are the important factors that affect investors' investment decisions? The present study tries to analyse the factors influencing the investment decisions of equity investors in Kerala. . The present study help the financial advisors and stock market investors to identify potential pitfalls in their investments and design and advise their clients on investment decisions. The present study analyses certain psychological factors, such as investment biases, personality traits, and emotional intelligence factors to determine their impact on the trading behaviour and investment performance of equity investors. The outcome of the study is very useful for market regulators, investors, and policymakers. Geographically, the study,s scope restricted to Kerala.

1.5 RESEARCH QUESTION

1. What extent do the equity investors in Kerala exhibit personality?
2. Are investors personality traits different depending on their socio-demographic background?
3. How much emotional intelligence is there among the equity investors in Kerala regarding their investment activities?

4. How do socio-demographic characteristics influence the emotional intelligence of equity investors?
5. Are emotional intelligence and investment performance related in any way?
6. Do behavioural biases moderate the relationship between emotional intelligence and investment performance?
7. Does risk tolerance play a mediating role in the association between investment personality factors and the investment performance of the stock?
8. What is the level of investment performance of equity investors Kerala?
9. Does the socio-demographic factors of the investors affect investment performance among equity investors?
10. Are the equity investors in Kerala ready to make reinvestments in the stock market?
11. Does equity investors' decision to reinvest have any influence on their socioeconomic and demographic settings?
12. What is the effect of investment performance on the reinvestment decisions of equity investors in Kerala?

1.6 OBJECTIVES OF THE STUDY

1. To examine the personality traits and emotional intelligence of the equity investors in Kerala.
2. To analyse the levels of behavioural biases demonstrated by equity investors in Kerala.
3. To identify the relationship between emotional intelligence and investment performance using behavioural biases as mediating factors.
4. To extract the mediating role of risk tolerance in the relationship between investment personality traits and the investment performance of equity investors in Kerala.

5. To analyse the levels and causal connection of investment performance and reinvestment decisions of equity investors in Kerala

1.7 PERIOD OF THE STUDY

The period of the study covers five years, from August 2018 to December 2023. The primary data for the study were collected during the period 2021–2022 from equity investors in Kerala.

1.8 VARIABLES USED IN THE STUDY

The following are the important variables used for the study.

Table 1.1

Variables of the study

Sl no	Purpose	No of variables	Name of the variables	Literature support
1	Demographic factors	7	Age Educational Qualification Gender Annual income Occupation Residential area Marital status	Dr. Dhiraj Jain, & Mr. Nikhil Mandot. (2012), Bashir, Taqadus & Maqsood, Maimona. (2013) Jayashree, T., & Dr.Chitra, K. (2015). Saivasan, & Lokhande M. . (2022)
2	Behavioural biases.	7	Emotional and Cognitive bias Overconfidence bias Loss aversion bias Herding bias Anchoring bias Availability bias Cognitive dissonance bias. Representatives bias.	Kudryavtsev Andrey, & Cohen Gil. . (2012) Abiola, B., & Adetiloye Kehinde. (2012). Charles, A., & Kasilingam R. (2016), Rostami, & Dehaghani Z A. (2015) Sashikala, v., & Chitramani P. (2017) Hon-Snir, S(2012).

Sl no	Purpose	No of variables	Name of the variables	Literature support
3	Emotional Intelligence.	5	Self-Awareness Motivating oneself Self management Empathy Social skills	Pirayesh, & Reza. (2014), Muhammad Tanvir, & Muhammad Sufyan. (2016), Babli, D. ((2018), Biju Thomas Muttath, & Assissi Menachery. (2018), Dhiman, B., & Saloni Raheja. (2018).
4	Personality traits.	5	Openness, Conscientiousness Extraversion Agreeableness Neuroticism.	Chitra, K., & Sreedevi, V. R. (2011), Sadi, R., Asl Hassan, & Rostam Mohammad. (2011) Sambatur, S., & Shetty Sukanya. (2015), Bayrakdaroglu & Bilgehan Kubilay . (2016), Sashikala, & P.Chitramani. (2019).
5	Investment performance and satisfaction	1	Investment performance	Rafique, A., Attari, Muhammad Umer etl (2020) Hind, L., Youssef Chetioui, & Guechi Elias. (2021). Luong, & Le Phuoc; Doan Thi. (2021)
6	Reinvestment decision	1	Repurchase behaviour	

1.9 OPERATIONAL DEFINITION OF VARIABLES

Table 1.2

Operational definition of variables

Investors	Investors are individuals who have a demat account and buy and sell shares directly from the stock market. They are the holders of equity shares.
Behavioural bias	Irrational beliefs or behaviours that can unconsciously influence our decision-making process.
Emotional bias	Emotional biases occur due to the emotional thinking of the investors.

Cognitive bias.	A cognitive bias is a systematic error in thinking that impacts one's choices and judgments.
Herding bias	Herding is the tendency of investors to mimic the actions of other investors (rationally or irrationally) without paying much attention to the correct information.
Anchoring bias	It is a tendency to rely on the first piece of information while making investment decisions. It is an irrational bias towards an arbitrary benchmark figure.
Overconfidence bias	This bias occurs due to the overconfidence of the people. Overconfident individuals tend to overestimate their abilities, knowledge, and the precision of their beliefs.
Loss aversion bias	It is the tendency of investors to avoid losses strongly as compared to gains.
Cognitive dissonance	Cognitive dissonance is a mental process in which individuals experience discomfort when they face new facts and situations that are contradictory to their existing knowledge, beliefs, prejudices, expectations, and preconceived ideas. While experiencing such a situation, individuals reject new information that contradicts their beliefs.
Availability bias	It is a tendency for people to overestimate new information or events based on immediate or hypothetical examples
Representativeness bias	Representativeness bias occurs when we make judgement or decisions based on how people or situations match a particular prototype or stereotype.
Investment performance	Investment performance is the return on an investment portfolio.
Personality traits	Personality is a psychological term that refers to a set of unique features of an individual. Personality is measured by using the Big Five model. which include five factors such as openness, conscientiousness, extraversion, agreeableness, and neuroticism.
Openness	Openness to experience simply means one's willingness to engage in intellectual activities. People who are high on these traits are willing to try new things, creative, and focused on taking on new things.

Conscientiousness	People with high score on conscientiousness traits are self-disciplined ,hardworking always strive for achievement, try to finish important works in the right way, and prepare a time schedule for every task.
Extraversion	Persons with high levels of extraversion are enthusiastic and very much like to interact with others, they are sociable, talkative, enjoy meeting new people, etc.
Agreeableness	Agreeable individuals are more kind, helpful, generous, trustworthy. Those people who are high in agreeableness are altruistic, and optimistic. They desired to get along with others.
Neuroticism	Neuroticism refers to a chronic level of emotional instability and is prone to psychological distress. People with high neuroticism are less predictable, have poor management of their emotions, and are anxious, unhappy prone to negative emotions, and pessimistic in nature.
Emotional intelligence	Emotional intelligence refers to the ability of a person to regulate and control one’s own emotions as well as those of others. The important dimensions of emotional intelligence factors are: Self-awareness, managing emotions, motivation, empathy, and social skills.
Self-awareness	The ability to understand one ‘s emotions.
Managing Emotions	It is the ability to control one’s own emotions.
Motivation:	It is the capacity to set one’s own goals and work hard to achieve those goals.
Empathy	Empathy simply means sensing the feelings of others. It involves understanding the emotions of others and helping them achieve their goals.
Social skills	Social skills include the ability to work in groups. It involves solving problems with others and interacting well with all people in all situations.

1.10 HYPOTHESES OF THE STUDY (COMBINED FORM)

- H1: The investment personality traits and emotional intelligence exhibited by stock market investors in Kerala are average.
- H2: There is no significant difference among various investment personality traits and emotional intelligence of stock market investors in Kerala, and their socio-demographic profile
- H3: There is no significant difference between investors with high- and low-level investment personality traits with regard to their behavioral biases and emotional intelligence
- H4: There is no significant difference among the levels of behavioural biases of stock market investors in Kerala.
- H5: There is no significant association between socio-demographic profile of the investors and their level of behavioural biases.
- H6: There is no significant difference among the levels of investment performance and reinvestment decisions of stock market investors in Kerala.
- H7: There is no significant association between socio-demographic profiles of the investors and their level of investment performance and reinvestment decisions.
- H8: Behavioural biases have mediating role in the relationship between emotional intelligence and investment performance
- H9: Risk tolerance plays mediating role in the relationship between investment personality traits and investment performance.

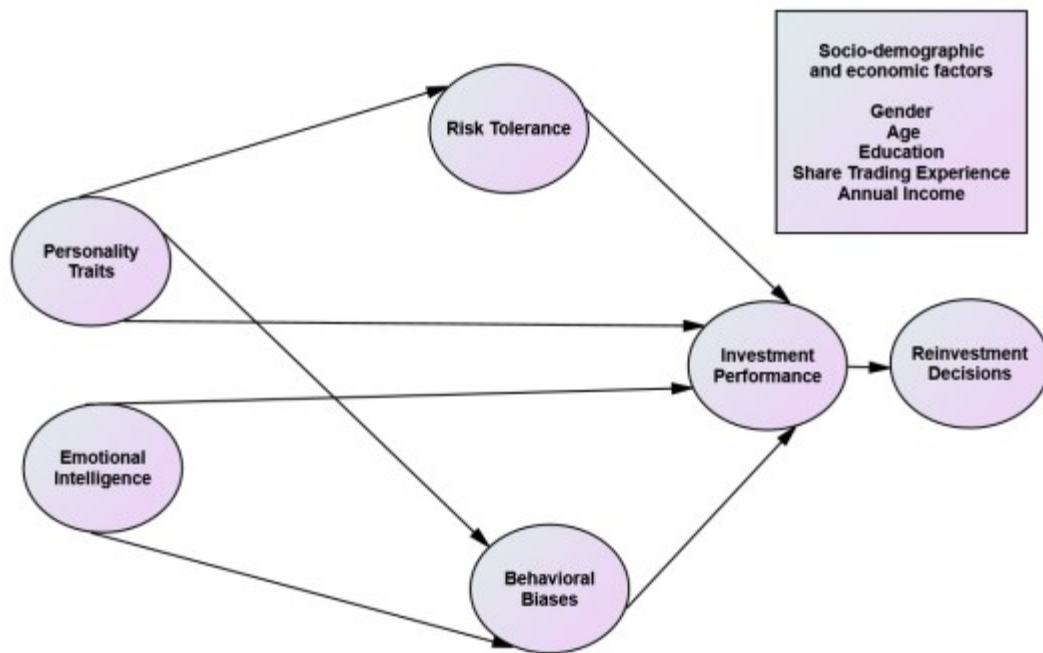
1.11 CONCEPTUAL FRAMEWORK

In the present model, there are six variables, such as personality factors, emotional intelligence factors, behavioural bias, demographic factors, risk tolerance, investment performance and reinvestment decisions.

The model examines the relationship between two independent variables (personality traits and emotional intelligence) and dependent variables (investment performance and reinvestment decisions) and whether behavioural bias and demographic variables act as mediating variables.

Figure 1.3

Conceptual Framework of the study



Source: Compiled by the researcher

1.12 LIMITATIONS OF THE STUDY

1. The researcher considered only limited behavioural biases for the study.
2. All the limitations of the questionnaire also affected the study.
3. The study only considers limited variables such as personality traits, demographic traits, psychological biases, and emotional intelligence factors of the investors.
4. Human behaviour is highly complex in nature and changes over time, so it is not possible to ensure 100% accuracy.

1.13 CHAPTERISATION

Chapter 1: The first chapter consists of an introduction to the study, research problem, main objective of the study, list of variables, an operational definition of variables, limitation of there research work and chapterization scheme.

Chapter 2: The second chapter includes a review of the related literature. This chapter provides an overview of past research undertaken in a similar field by various researchers. Various national and international-level studies are reviewed in this chapter.

Chapter 3: The third chapter deals with the theoretical framework of the study. It includes a brief introduction to the traditional approach to investor behaviour, various anomalies in the stock market, the history and growth of behavioral finance, behavioral biases, personality traits etc.

Chapter 4: Deals with the research design and methodology used in the research work.

Chapter 5: The fifth chapter presents the data analysis and interpretation. Various statistical techniques have been applied to study the effect of personality, emotional intelligence, and behavioral biases of equity investors in Kerala.

Chapter 6: This chapter consists of a detailed analysis of the mediating role of behaviour bias in connection with emotional intelligence and the investment performance of equity investors.

Chapter 7: This chapter examine the mediating role of risk bearing capacity with the relationship between investment personality traits and investment performance.

Chapter 8: This chapter presents a brief summary of all chapter, findings of the study and conclusion.

Chapter 9: This chapter presents suggestions based on the findings of the study, scope for future research, and implications of the research work.

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Chapter 2

Review of Literature

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2.1 INTRODUCTION

The present study examines various behavioural aspects of equity investors in Kerala. It aims to measure how personality traits, emotional intelligence, and behavioural biases affect investment performance and reinvestment decisions. . The researcher made an attempt to review various past studies so far relating to the present topic to identify the research gap. The studies are grouped into five sections.(1) Studies relating to the behavioural biases (2) Studies relating to demographic profile and behavioural biases of the investors (3) Studies relating to personality traits and behavioral biases; (4) Studies relating to investment performance.(5)Studies relating to emotional Intelligence and behavioural bias of the investors.

2.1.1 Studies Relating to behavioural Biases:- Behavioural biases are irrational beliefs or systematic errors that can unconsciously influence an investor's decision-making process. They are generally grouped into two categories: cognitive biases and emotional biases. Cognitive bias arises from memory or basic statistical errors. It occurs mainly through faculty reasoning. Emotional bias arises from the way one feels about an event. It occurs more from the impulse or intuition of the investor than from conscious mental calculations here we discuss how biases effects ones investment decisions .

2.1.2 Studies relating to demographic profiles and behavioural biases:- The present study examine the impact of various demographic factors such as gender, age, education, occupation, income, and investment experience and how all these factors lead to behavioural biases among investors.

2.1.3 Studies relating to personality traits and behavioural biases: -Personality is a distinctive style of characteristics possessed by an individual that uniquely determine his behaviour. It includes inherent and learned characteristics that distinguish one person from another. Personality is measured by using five factors model it includes factors such as openness, conscientiousness, extroversion, agreeableness, and neuroticism. How personality traits affect investment decisions is discussed in this part.

2.1.4 Studies relating to investment performance: -Investment performance simply means the investment's level of growth over a period. This is often examined by the percentage change in the investment's value over a period. The high return indicates high performance and low return indicates low performance. This section discusses the role of investment performance in decision-making.

2.1.5 Studies Relating to Emotional Intelligence and behavioral biases of the investors : -Emotional intelligence is the ability to recognize, understand, regulate and assess our own feelings and the ability to respond empathetically with others. Self-awareness, motivating oneself, managing emotions, empathy, and social skills etc are the important components of EI factors. This part discusses studies related to how EI factors impact one's investment decisions.

Table 2.1*Studies related to behavioural biases of the investors*

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Bharat, Bhandari Sandhya, Ojha Deepak & Sharma Laxmi, 2022)	Effect of Cognitive Biases on investment decision making: A Case of Pokhara Valley, Nepal	Quest Journal of Management and Social Sciences	Whether cognitive biases affect investors at Pokhara Valley, Nepal. To measure the impact of availability, anchoring, over-confidence and herd instinct on rational investment decision-making.	Convenient sampling techniques.	Overconfidence bias, anchoring bias, herd bias and regret aversion bias, demographic factors etc.	Regression analysis	Availability, over-confidence and herd instinct biases are highly linked with irrationality of the investors. whereas regret aversion biases have less effect on their stock purchase decision.
Kartini, & Nahda, K. (2021).	Behavioural Biases on Investment Decision: A Case Study in Indonesia	Journal of Asian Finance, Economics and Business	To examine the influence of anchoring, representative bias among the investors	Simple random sampling	Representativeness biases, anchoring biases, loss aversion and overconfidence biases	One sample t test	Representativeness biases, anchoring biases, loss aversion, and over-confidence biases highly influence the investment decisions of investors in Indonesia.
Adil, Singh, & Ansari (2021)	How Financial Literacy Moderates the association	Asian Journal of Accounting Research	To identify the behavioural biases affecting	Snowball and judgement sampling	Behavioural biases. Financial	Regression analysis	Male investors are not affected by herding and risk-aversion biases.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
	between behaviour biases and Investment Decision?		investment decision. To examine the moderate effect of financial literacy on the relationship between behavioural biases and stock investment decisions	method	literacy and Investment decisions		But disposition biases affect their investment decisions.
Jain & Kesari, (2020)	Impact of Behavioural Biases on Financial Risk Tolerance of Investors and their Decisions Making	Journal of Test Engineering and Management	The research article measure how risk tolerance impact on investors' behaviour bias.	Simple random sampling	Decision making and risk tolerance	ANOVA and regression analysis	Behavioural biases significantly impact risk tolerance level of investors.
(Hussain & Mehboob, 2019)	Impact of herding behaviour and overconfidence bias on investors' decision-making in Pakistan	Journal of Accounting	To measure how herd bias and over-confidence bias among equity investors in Pakistan. To analyse whether any relationship exists between	Convenient sampling method.	Herd bias Overconfidence bias, Demographic factors	Means, Standard deviations and Correlation analysis	Pakistani investors are highly affected by herding and over-confidence biases. Male investors are more overconfident than female investors. Experienced and educated investors are highly over-confident.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			the gender of the respondent and selected investment biases.				
(Razan & Salem, 2019)	Examining investment behaviour of Arab working women in the stock market.	Journal of Behavioural and Experimental Finance	To compare the level of financial literacy, herd mentality, investment behaviour, and level of confidence among Arab women and men at the Saudi Arabian stock exchange	Convenient random sampling	Financial literacy, herd mentality, investment confidence	Man Whitney U test	The Man Whitney U test shows that there is a significant difference between the confidence levels of men and women with respect to their investments. Most of the women are conservative in their trading. Due to limited investment knowledge, women participate less in the stock market.
(Madaan & Singh, 2019)	An analysis of behavioural biases in investment decision-making.	International Journal of Financial Research.	The article measure the impact of selected behavioural biases on investment decision-making of investors at	Simple random sampling	Anchoring bias disposition effect and herding bias etc	Correlation and regression method was used to analyse the data.	Individual investors are highly affected with psychological errors at the national stock exchange.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			national stock exchange.				
Ramalakshmi, V., Pathak, V.K., Jos, C.M., & Baiju, E. (2019)	Impact of Cognitive Biases on Investment Decision Making.	Journal of Critical Reviews.	To examine the impact of cognitive biases on investment decisions.	Simple random sampling is used for collecting primary data.	Overconfidence Risk aversion Representativeness Herd biases	Path analysis	All these biases have an impact on the investment performance of investors.
Chhapra, Kashif, Rehan, & Bai, (2018)	An empirical investigation of investor's behavioural Biases on Financial Decision Making	International Journal of Science and Research,	To examine the role of behavioural biases investors at Pakistan Stock Exchange	Simple random sampling	Overconfidence Herd biases, Hindsight effect etc	Multiple regression analysis	All the five selected biases such as overconfidence overthinking herding, hindsight effect have a positive impact on individual investors.
Jacob Niyoyita Mahina Jomo Kenyatta & Dr. Willy M. Muturi Jomo Kenyatta (2017)	Effect of behavioural biases on investments at the Rwanda stock exchange	International journal of social science and information technology.	To measure the effect of behavioural biases on investment in the Rwanda stock exchange. To explore the effect of loss aversion biases.	Stratified random sampling.	Behavioural biases.	Mean, SD, regression analysis.	The study reveals that most of the investors suffered from various behavioural biases at Rwanda stock exchange. Majority of the investors are affected with loss aversion biases. The study conclude that investors are more

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
							regretful while holding losing stocks too long than selling winning ones too soon.
(Mahina & Willy Muturi Momba Florence., 2017)	Effect of behavioural biases on investments at the Rwanda stock exchange	International journal of social science and information technology.	Whether equity investors are affected with behavioural biases. To examine the role of self-serving bias, over-optimism bias, loss aversion, self-attribution bias and confirmatory bias on investment.	Random sampling.	Behavioural biases, demographic factors etc	Mean SD, regression analysis.	There is a positive significant relationship between self-serving bias, self-attribution bias over-optimism bias, confirmatory bias loss aversion bias among investors.
(Sashikala & Chitramani P, 2017)	Impact of investment biases on investment intention	International Journal of engineering Technology management and applied science.	To identify the impact of investment biases on investment intention of individual investors.	By using snowball sampling technique 200 investors were collected from Coimbatore city	Dependent Variable investment intention Independent variables Behavioural bias such as:- Representativen	Mean, Standard deviation, (SD) and regression analysis etc.	Investment biases highly influence on short term investment decision and least influence on long term investment decisions. Heuristic biases and herd behaviour highly impact on short term

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
					ess bias Anchoring bias Mental accounting bias Availability bias herd bias Gambler's fallacy Loss aversion bias Regret aversion etc.		investment decision of investors.
Muhammad Anwar, Sher Zaman Khan & Amin Ur Rahman (2017)	Financial Literacy, behavioural biases and investor's portfolio diversification: Empirical study of an emerging stock market.	Journal of finance and economics Research.	The purpose of this study is to check the impact of financial literacy and behavioral biases on investor's portfolio diversification.	By using convenient random sampling methods 181 sample respondents are selected for the study .	Demographic factors and experience in the stock market	ANOVA test Correlation analysis and SPSS software etc are used for analyzing the data.	Financial literacy has insignificant and positive influence on investor's portfolio diversification, Over-confidence bias has significant negative impact on investor's portfolio diversification.
(Yamini Gupta & Ahmed Shahid, 2016)	The impact of psychological factors on investment decision	EPRA International Journal of Economic and	To examine various psychological biases affecting	convenient sampling method is used for	Herd behaviour, regret aversion, anchoring bias, loss aversion	Discriminant analysis and Chi-squared test	The author claimed there exist a strong positive sign of the existence of herd

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
	making of investors: an empirical analysis	Business Review	individual investor's behaviour. To identify if any behavioural bias exist among investors at Indian stock exchange.	collecting data from 380 retail investors at Indian stock exchange	biases	etc	biases, loss aversion biases, and anchoring biases among the investors. Experienced investors are more affected to loss aversion, regret aversion, and anchoring biases.
A Charles R & Kasilingam (2016)	Impact of selected behavioural; biases factors on investment decision of equity investors.	Journal of management studies.	To analyses the impact of selected behavioural biases factors on behaviour of equity investors in Tamil Nādu.	Multistage random Sampling method	Dependent variables: - Behavioural biases like- Mood, Emotions, heuristics frames, Personality factors, Gambling etc.	Correlation analysis and SEM analysis	The study reported that investors emotional factors and personalities determine their investment behaviour. Heuristic factors highly affect the personality of investors. Emotion, gambling, heuristics, and the frame bias factor significantly affect their investment decisions. Personality and mood factors have a good role in framing investment decisions.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Rostami & Dehaghani Z A, 2015)	Impact behavioural biases (over confidence, ambiguity aversion and loss aversion) on investment decision in Tehran Stock Exchange	Journal of Scientific Research and Development	To investigate major behavioural biases among investors such as overconfidence, ambiguity, and loss aversion. Whether behavioural biases effect investment decision making of the investors.	302 equity investors from Tehran Stock Exchange are selected by using simple random sampling method.	Independent variables behavioural biases like over confidence, loss aversion, ambiguity aversion etc. Dependent variables Investment factors and demographic factors	One sample t test. Binomial test and, Friedman test	Investors affected by overconfidence biases trade excessively. Males are more overconfident than females. Older people had higher ambiguity aversion biases than younger ones. Loss aversion biases are highly connected with the investment behaviour of investors.
(Mishra & Mary J Metilda B, 2015)	Study on the impact of investment experience, gender, and level of education on overconfidence and self-attribution bias	IIMB Management Review	To analyse the impact of gender, age, investment experience, and education on two identified biases such as overconfidence and self-attribution. To identify any relationship between overconfidence	By using random sampling method, data collected from 309 mutual fund investor .	Overconfidence, self-attribution. Demographic variables such as: Age education, experience and gender, etc	Mean SD, Anova	There is a strong positive and significant association between overconfidence and self-attribution bias. The study identified that men's are highly overconfidence and this bias increases with investment experience and educational qualification. Self-attribution biases

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			biases and self-attribution biases.				increase with the education of the respondent, and self-attribution bias, gender, and the investor's experience are negatively related .
(Sanningammanavara & Kantasha., 2014)	Factors influencing individual investors behaviour and investment decision –A case study of Indian capital market	GE international journal of management research,	To measure the various demographic factors that affect the investment decision of investors. List out the factors that influence the investment behaviour of investors	Convenient sampling method	Anchoring risk aversion overconfidence disposition effect gambler's fallacy heuristic biases	Factor analysis SD averages etc are used for analyzing the data.	The study shows that psychological biases such as representativeness bias, heuristics, etc. are playing a significant role in determining individual investor behaviour. Behavioural biases like anchoring and risk aversion, overconfidence, the disposition effect, the gambler's fallacy etc. are least affected by investors in Mysore city
(Arif & Muhammad Zubair Khan , 2013)	Investors' overconfidence: Evidence from	Journal of engineering and applied	To identify various psychological	Simple random sampling	Age, educational qualifications,	Mean. Standard deviation	The educational factor significantly increases overconfidence bias.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
	Islamabad stock Exchange	science .	aspects of stock investors and their impact on investment decisions To assess the impact of overconfidence biases among stock investors	method	years of experience, source of income.	and Regression analysis etc.	Demographic factors such as age, trading experience, gender, etc. negatively influence overconfidence biases. The study concludes that overconfident behaviour may lead traders to engage in unnecessary and excessive trading, which leads to negative returns.
(Taqadus & Maqsood, Maimona, 2013)	Impact of Behavioural biases on investors decision making male v/s female	IOSR Journal of Business and Management	To examine the relationship between investment bias and gender. To identify the relationship between availability biases, overconfidence biases, and loss aversions.	Simple random sampling is used for collecting data from the respondents	Independent variables Demographic factors like age, education, gender etc. Dependent variables: - Loss aversion biases, availability biases and overconfidence biases	Correlation analysis and Chi square test is used for analysing the data.	Familiarity biases have an effect on the majority of investors. Loss aversion, overconfidence, and illusion control biases all have a negative correlation with one another. Gender does not significantly influence overconfidence bias.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Abiola & Adetiloye Kehinde.) (2012)	Investor's behavioural biases and security market. An empirical study of Nigerian security market.	Accounting and finance research journal .	To analyse how behavioural biases affect stock market investors in Nigeria. To identify to what extent stock market performance is affected by investors behavioural bias .	Simple random sampling method	behavioural bias like over confidence framing bias heuristic bias anchoring and demographic factors etc.	Persons correlation analysis and t test	Most of the investors in the Nigerian security market are affected by overconfidence, loss aversion, status quo, and framing biases and are least affected by confirmation and anchoring biases. Even though investors are affected by behavioural biases, the result shows behavioural biases and stock market performance are negatively correlated.
Hon-Snir etl. Shlomit. 2012	Stock market investors: who is more rational, and who relies on intuition?	international journal of economics and finance`	To analyse the effects of behavioral biases like disposition effect, herd behaviour, availability, gambler's fallacy etc. among the investors.	Multi stage random sampling	Demographic factotres Availability biases heuristic bias, disposition effect ,herd bias etc.	Chi square analysis and percentage analysis.	Majority of the investors are highly susceptible to herd biases and availability biases. Females and less experienced investors are highly affected with availability biases, disposition effect and herd bias.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Le phuo Luong Doan thithuha (2011)	Behavioural factors influencing stock investment decision and performance a survey at ho chi mini -stock exchange	UMEA School of university Business.	The main objectives of this study are: To find out the behavioural factors influencing the investment decisions and performance of investors at the HOSE.	Snowball sampling	Overconfidence ,herding ,gamblers fallacy and anchoring bias.	SPSS and AMOS software's	The researchers identified five behavioural factors that influence the investment decisions of Investors at The Hochi Mini Stock Exchange. The following are the important factors:- Herding, Market Prospect, , Gambler's fallacy , Overconfidence and anchoring. Herding, prospect and heuristic biases are the important behavioural biases highly influence the investors.
Barber, B.M. and Odean, T. (2000)	Trading is hazardous to your wealth: the common stock investment performance of individual investors	Journal of Finance.	To examine the presence of overconfidence biases among different gender category	Not mention in the study	Overconfidence ,behavioural biases, gender	Percentage analysis	The study shows that men's are more overconfident than women's and they trade more than women's.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Amos Tversky and Daniel Kahneman (1974),	Judgment under Uncertainty: Heuristics and Biases	Science journal	The study aims to analyse the cognitive biases arises from judgemental heuristics.	No specific sampling method is used here	Representativeness bias Availability bias Anchoring bias	Descriptive study	heuristics are helpful while making investment decisions but it leads to wrong judgements. A better understanding all these biases help investors to make good decisions.

Table 2.2*Studies related to demographic factors and behavioral biases of investors*

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Syarkani, Y & Alghifari, E.S. (2022).	The influence of cognitive biases on investor decision-making: The moderating role of demographic factors	Jurnal Siasat Bisnis.	To examine the impact of cognitive biases on the investment decisions of investors by keeping demographic factors as a moderating variable.	Convenient sampling	Investor decision-making, overconfidence bias, illusion of control bias, demographic factors.	Variance analysis.	Illusion-control biases have a high impact on the gender and education of investors. Males have superior abilities in processing information and making judgement than women, so males are more overconfident than women.
(Saivasan & Lokhande M., 2022)	Influence of risk propensity, behavioural biases and demographic factors on equity investors' risk perception"	Asian journal of economics and banking	To identify the relationship between demographic attributes and investor's risk attitude and various behavioural biases while making equity	Simple random sampling	Demographic factor risk related factors and behavioural bias	Multiple regression is used to assess the relationship between demographic traits and factor groups. Kruskal-Wallis test is used to ascertain	From the study it is cleared that demographic factors affect risk propensity and behavioural bias. The behavioural bias such as familiarity, overconfidence, anchoring has vary significantly for different demographic factors. These elements affect a

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			investment.			whether the factors extracted differ across demographic categories	person's perception of risk in, relation to equity in vesting.
(Sonawane & Dr. Vinod Sayankar, 2021)	A study on impact of demographic factors on overconfidence biases in investment decision process	International journal of management	To determine the influence of demographic factors on herd and overconfidence biases of investors	Snowball sampling	Demographic factors, overconfidence biases, herd behaviour	ANOVA test	The present study focuses on the impact of herding and overconfidence among IT professionals in Pune city and also measures the impact of demographic factors on various investing biases exhibited by them. The findings of the study reveal that there is a significant difference between overconfidence bias and the demographic characteristics of investors.
(Beatrice, Werner R. Murhadi, & Arif Herlamban, 2021)	The effect of demographic factors on behavioural biases	Jurnal Siasat Bisnis	To analyse the influence of demographic factors on	152 respondents are selected from Indonesia	Demographic factors(gender, age, education level, occupation, income level, and	SEM (structural equation modelling).	Demographic factors such as age, income, and financial experience could affect biased respondents highly. Age

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			various investment bias exhibited by the investors	Stock Exchange by using convenient sampling method .	investment experience and behavioural biases such as overconfidence, disposition effect, herding, and mental accounting bias.		and occupation had an effect on herding behaviour, while income levels had an effect on mental accounting bias. As income levels rise, investors will have a more propensity for mental accounting bias.
Dr. Renu Isidore. R & Dr. P.Christie 2018	Does Gender influence investors behaviour in the Secondary equity market	International Journal of applied engineering research	To analyse whether female investors are more susceptible to different kinds of behavioural biases such as anchoring, availability, loss aversion, representativeness bias, overconfidence, mental, accounting, etc.	Snow ball Sampling technique	Gender, Behavioural biases such as:- Mental accounting, anchoring gamblers fallacy, availability bias etc	Mean, Standard deviation and independent, t test	Female investors are more prone to following biases like mental accounting biases (mean score of 16.6), anchoring biases (mean score of 17.34), availability biases (mean score of 15.04), loss aversion biases, and regret aversion. Lacking information and knowledge, women exhibit more bias than men. Compared to men, they are less ready to take risks.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Banerjee, De, Anupam, & Bandyopadhyay, Gautam., 2018)	Impact of Demographic Profile on Investor Biases in India using OLAP and ANOVA	ESEARCH BULLETIN -	To examine how demographic factors and its impact on investment biases.	Not mentioned in the study	Demographic factors and behavioural biases.	Online analytical processing (OLAP) t- test and one-way ANOVA etc are used for analysing the data.	The research indicates that an investors age may have an impact on their biases. However other demographic features such as gender, income, education, and occupation, may not have an effect on investor biases
Baker, H. & Kumar, Satish & Goyal, Nisha & Gaur, Vidhu. (2018).	How financial literacy and demographic variables relate to behavioural biases.	Managerial finance.	To examine how financial literacy and demographic variables relate to behavioural biases.	Not mention in the study	demographic factors and behavioural biases	The study uses one-way analysis of variance (ANOVA), factor analysis and multiple regression.	The findings indicate that financial literacy is positively correlated with mental accounting biases and has no relationship with emotional biases but is negatively correlated with herding bias and the disposition effect. Demographic factors such as age, occupation, and investment experience are highly correlated with behavioural biases.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Yunus Kalabalik & Selim, 2018)	The effects of demographic factors on the relationship between personality traits and financial risk taking.	International Congress of Management, Economy and Policy, Istanbul	To check the influence of demographic factors on the relationship between financial risk-taking and personality traits on investment decision-making	Simple random sample method	Personality traits, Demographic factors	Pearson's correlation analysis, descriptive statistics. etc	All demographic factors are associated with the big five personality traits and financial risk-taking capacity of investors
Ahmed Kafeel (2017)	To study the Impact assessment of demographic variables (Gender) on investors decision making in Stock market.	Asian journal of Management	To investigate how gender affects investment decision-making. To determine whether differences in gender impact investment horizon, risk taking behaviour.	Sampling method not mentioned.	Age Education Gender Investment horizon Risk attitude Holding period etc.	Chi-square Analysis	Men tend to invest for the long term more than women do. Men and women are very different when it comes to their fear of losing things. Females are more risk averse than men. . .

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Dr. K. Chitra &MS.T. Jayshree (2015)	Does the influence of cognitive bias on investor behaviour differ with demographic Profile: -An empirical study.	International Research Journal of Social Science and Management	To identify the various cognitive biases among the investors and also measure the impact of these biases on their investment behaviour. To analyse the association between cognitive biases and demographic variables	convenient sampling techniques	Demographic variables such as:- age, gender , marital status, income etc Behavioural biases such as :- framing biases cognitive dissonance bias conservatism bias representativeness bias and confirmation biases	Factor analysis and Anova test is used for analysing the primary data.	Investment biases like cognitive dissonance, hindsight biases and confirmation biases are least influenced by the demographic character of investors. Framing and representativeness biases vary according to gender, occupation, and the annual family income of investors.
Tahira R Hassan wajiha Khalid & Abirah habib 2014	Overconfidence and loss a version in investment Decision : A study of the impact gender and age in Pakistani perspective.	Research journal of finance and accounting	To assess the intensity of overconfidence and loss-aversion biases among investors in Pakistan	By using convenient sampling method 450 respondents are selected from Pakistani stock	Dependent variable :- Over Confidence ,Loss a version Independent variables:- Gender, Age etc	Chi Square analysis and correlation analysis is used estimating the impact of gender and age on two	There is strong positive association with gender and over confidence biases. and loss aversion Women's are more overconfidence and loss averse than men's The test result also shows that increase in

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
				exchange		behavioural biases namely overconfidence & loss aversion.	over confidence biases cause decrease in loss aversion biases.
Dr. Dhiraj Jain, & Mr. Nikhil Mandot. (2012)	Impact of demographic factors on investment decision of investors in Rajasthan	Journal of arts Science and commerce- Researchers world	To determine how demographic features affect risk taking capacity and investment decisions	Convenient sampling method is used for collecting data from the respondents	Dependent variables: - risk factors :- Independent variables: - Demographic factors like: Age, city, income, occupation Educational qualification etc.	The Chi-Square test and correlation analysis were used to measure whether there is a significant relationship between the risk-taking capacity of investors and their demographic factors.	Gender and risk-taking capacity are inversely related. Income and risk tolerance are directly related. When income increases, the risk-bearing capacity of investors also increases. Investors with higher education are more active in stock trading.
Jamshidinaid et al. (2012)	The Impact of Demographic and Psychological Characteristics on the Investment Prejudices in	European Journal of Business and Social sciences,	To investigate how demographics and personality factors affected	Simple random sampling	Demographic factors, Behavioral bias	Structural equation modelling analyses	Age and herding are negatively correlated. Herd tendency is more common among women's. Overconfidence is very high among the educated

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
	Tehran Stock		Investors at Tehran Stock Exchange				respondents. Herding and disposition bias are positively correlated with the neurotic traits of investors. Whereas herd and overconfidence biases are positively correlated with agreeableness personality traits.

Table 2.3*Studies relating to personality traits of the investors*

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Fawad Ahamed 2020	Personality traits as predictor of cognitive biases: moderating role of risk-attitude	Qualitative research in financial market	How personality characters are related to behavioural biases. To investigate the moderating role of risk bearing capacity and personality and behavioural biases of investors	Purposive sampling method	Personality, Risk bearing capacity, behavioral biases	Regression analysis is used to analyse the primary data	The risk aversion act as a moderator in the relationship between personality traits and Behavioural biases The personality traits such as conscientiousness is highly related with disposition effect, overconfidence.
(Sashikala & P. Chitramani, 2019)	Personality of individual investors,	The research journal of social sciences	To assess personality traits among investors Examine the role of big five	Not specified	Big five personality demographic factors	ANOVA test	The present study is aimed to analyse the impact of personality traits and demographics on investment decisions among investors. A sample of 200

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			personality, demographic factor on investment decision of equity investors				experienced equity investors from Coimbatore was considered for the study. From the study, it was found that demographic factors have no direct impact on investors personality traits.
Johnsi, S., & Sunitha, K. (2019).	Impact of personality and emotional intelligence on investor behaviour	SDMIMD Journal Management	To identify how personality traits and emotional intelligence factors effect on investment decision	Stratified random sampling .	Big five Personality factors Emotional intelligence factors Overconfidence biases Herding, Loss aversion biases Cognitive dissonance Mental accounting biases	Logistic regression analysis and factor analysis.	Investors with extravert personality traits shows cognitive dissonance biases, overconfidence biases and locus control biases. Agreeableness traits have negative association with locus control biases and positive association with locus control biases. Emotional intelligence factors such as self awareness, empathy competency has positively associated with risk aversion and locus control biases

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Ramani, Kaneeshama V. R, & Saravana Kumar, 2018)	Influence of investment objective on personality traits and behavioral biases.	International journal for research in engineering application and management .	How personality factors influence selection of portfolio. To measure different, invest objectives on personality traits of investors. To find out various biases affecting the investors	Convenient sampling method	Independent variables: - Investment objectives Dependent variables Five personality dimension and behavioural biases. like cognitive biases, herding and emotional bias and contextual bias.	Data analyzed by using structural equation modelling & Amos software.	Study reveals that personality traits and investment biases are directly influenced to the investment decision of investors. SEM model shows that emotional biases are the most Influencing factor of investors while taking Investment objectives. Openness personality traits have high impact on Investment decisions of individual investors.
(Shankar & Dr Tomy Kallarakal, 2018)	A study on the impact of Big five personality traits and Demographics on the IT working professional in stock investment	International Journal of innovation and advancement in computer science	To identify the factors influencing the investment in stock market investment.	Convenient random sampling.	Independent variables:- Personality traits like openness, conscientiousness, extraversion, agreeableness neuroticism Dependent	Correlation Analysis Regression Analysis ANOVA test T- test under SPSS model is used for analysis the	The study identified that certain personality factors have a high impact on the stock selection behaviour of investors. Risk tolerance level among IT professionals is not correlated with openness and

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
					variables like: _ Age, educational qualification, gender domicile factor, annual income etc.	primary data.	agreeableness personality traits.
Babu.M et.al (2018)	Impact of Personality Traits on Investment decision in stock market	International Journal of Multi-disciplinary Management Studies	To investigate the influence of demographic factors and personality on the investment decisions of investors in Tiruchirappalli District, Tamil Nadu.	Convenience sampling	Demographic factors and Big five personality traits	Chi square and Factor Analysis	Respondents' investment decisions were not influenced by their demographic characteristics. Personality traits such as neuroticism, extraversion, openness, agreeableness, and conscientiousness are not influenced by investment decisions.
Raheja & Saloni, 2017)	Influence of personality traits and behavioural biases on investment decision of investors	Asian Journal of management	Whether there is any relationship between various dimensions of personality	Purposive sampling.	Independent variable Personality traits, behavioural biases. Over confidence	Multiple Regression analysis, Anova and F test was used for	Investment personalities such as agreeableness, extroversion, and openness are positively correlated with investment decisions, whereas neuroticism and

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			<p>traits and investment decision of the investors.</p> <p>To find out whether there is any relationship between various dimensions of behaviour, biases, and investment decisions.</p>		<p>bias conservatism, herding, regret aversion.</p>	<p>analysis</p>	<p>conscientiousness are negatively related to investment behaviour. Demographic variables have a high impact on investment decisions.</p>
<p>Shalini Gupta and Urvashi Shrivastava (2017)</p>	<p>Financial personality of the investors. the architects of the financial market.</p>	<p>International Journal of recent Scientific Research</p>	<p>To study the relationship between personality traits and psychological biases of the Investors in Raipur city</p>	<p>Convenient sampling method</p>	<p>Big five personality factors and behavioural bias</p>	<p>Chi-square test is used for analysis.</p>	<p>The respondents with agreeableness traits are highly affected with representativeness bias, availability, anchoring, overconfidence, overoptimism, and herd behaviour.</p> <p>Investors with neurotic traits are highly affected by regret-aversion bias.</p>

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
							where openness traits are affected by overoptimism biases.
Isidore, Renu & Christie, P. (2017).	Correlation between behavioural biases and investors personality in the secondary equity market Chennai	Pezzottaile journals	To analysis behavioural biases is correlated with personality traits.	Simple random sampling is used for collecting primary data from 436 respondents from Chennai city.	Independent variable:- Big five personality Factors Dependent factors:- Mental Accounting Anchoring, Gambler's fallacy, Loss a version bias, regret aversion bias, over confidence bias, optimism, Representatives	Person's correlation analysis is used to measure the relationship between various behavioural biases and big five personality traits.	When actual return is low investors with extraversion personality exhibit regret version, loss aversion and overconfidence biases. Those with conscientiousness exhibit anchoring, over confidence and regret aversion and openness personality shows loss aversion, over confidence and representativeness biases.
(T.M.T, Mai N.K, & Nguyen H.T, 2016)	Big Five Traits Moods and Investment Decisions in emerging stock markets	International Journal of Business Research	To examine the effects Big Five traits and moods on investment performance of individual	Not specified	Big five personality factors and demographic factors	Factor analysis	Negative emotions were directly related with agreeableness, neuroticism, and openness to experience personality traits of investors.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			investors trading on the Vietnam stock market				Extraversion directly influenced positive emotions among Investors
(Taun, Fang H X, & Iqbal A, 2016)	Information Sources and Trading Behaviour: Does Investor Personality Matter?	Qualitative research in financial market	To investigate the impact of sources of information on trading, behaviour of investors. To analyse whether personality has an impact on the trading behaviour of investors,	Stratified random sampling	Behavioural biases Big Five Personality factors etc.	NEO five factor inventory Factor analysis, Chi square test.	Information acquired via word-of-mouth communication results in more trading among extraverted and agreeable investors. People with neuroticism and openness personality traits depend more on financial advice from professionals which help them to increase their trading frequency.
(Kübilay & Bayrakdaroglu Ali., 2016)	An Empirical Research on Investor Biases in Financial Decision-Making, Financial Risk Tolerance and Financial	International Journal of financial research.	Analysing the relationship between personality traits and psychological	Convenient random sampling.	Independent variables:- Personality traits such as extraversion, agreeableness conscientiousness	Chi square analysis & regression analysis is used for data analysis.	Investors having extravert and agreeableness personality traits are highly affected with over confidence bias and financial risk tolerance.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
	Personality.		biases among the investors. Examine the relationship between personal traits and financial risks Tolerance among investors		, neuroticism, openness. Dependent Variables:- Financial risk tolerance behavioural biases .		People who have neurotic personality traits face with the psychological biases, like regret aversion and anchoring.
(Parameswari & Dr.Jayasree Krishnan, 2016)	Influence of personality traits on herding biases of individual investor in Indian capital market	AEIJMR	To find out the relationship between investors personality traits and herding biases. To identify the various demographic and investment profile of investors.	Multistage random sampling technique is used to collect data from respondent at Chennai city.	Investors personality traits, Dependent variable and herding biases	Correlation and multiple Regression analysis	From the study it is found that conscientiousness is the most perceived personality type and neuroticism is the least perceived by investors. Openness, agreeableness conscientiousness extraversion personality traits are positively linked with herding biases. There is a negative relationship between neuroticism and herding bias.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Musavand & Hojjat., 2016)	The study of relationship between personality type of investors with perceptual cognitive and perceptual feeling error in their investment (Hamedan Stock Exchange)	International Business Management	To identify various perceptual and cognitive errors among stock market investors. To identify various personality traits exhibited by the investors.	Simple random sampling method.	Introverts / extravert Thinking /feeling sensation /Intuition Judgment /Perceptual Dependent variables Personality factors	Myers briggs measurement techniques is used for assessing personality of investors. T-test correlation co-efficient, one way analysis of variance (ANOVA)	The correlation study shows that there is direct relationship between personality type and perpetual errors exhibited by the investors at Hamedan stock exchange.
Rzeszutek, Marcin. (2015).	Personality traits and susceptibility to behavioural biases among a sample of polish stock market investors.	International Journal of management and economics.	To measure the susceptibility to selected behavioural biases (Over confidence, Mental accounting, and sunk cost fallacy) is correlated with personality traits (Such	Convenient Sampling method.	Independent Variables: Personality traits such as (Impulsivity, Venturesomeness and Empathy) Dependent variables:- Behavioural bias like over confidence, sunk cost fallacy and mental	Regression analysis	Behavioural biases are directly linked with individual personality traits. There is no direct association between impulsivity and overconfidence biases. A higher level of venturesomeness is linked with lower profitability in behavioural biases.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			as Impulsivity, Venture Someness and empathy)		accounting		
J, Wang H, & Wang L, (2014))	Is There Any Over trading in Stock Markets? The Moderating Role of Big Five Personality Traits and Gender	PLOS ONE.	Whether there exists relationship between overtrading and investment return among the investors.	Stratified random sampling	Big five personality factors such as, extroversion, openness, agreeableness, Neuroticism, Behavioural biases and demographic variables	Various descriptive statistics and Correlation analysis.	The following are the major findings of the study: - over trading was significant in the bull market but not in the bearish one. Investors' trading volume is not influenced by their personality traits. However, in unilaterally price-rising situations, the trading volume of an investor with high extroversion will trade excessively. Individuals with high neurotic traits often overreact to bad feelings.
Bashir, Taqadus & Scholar, Nazish & Arslan, Ali & Scholar, Aaqiba & Javed, M. (2013).	Are Behavioural biases influenced by demographic characteristics and personality traits?	European Scientific Journal	To investigate the influence of personality traits on the	Simple random sampling Method	Independent variables Big five personality factors	SEM analysis and Spearman's rank correlation	Demographic factors have a negative relationship with investing biases and risk-taking behaviour.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
	Evidence form Pakistan		investment biases. To analysis the impact demographic variables on investment biases.		, Dependent variables Demographic factors like:- Age, Gender, Marital Status etc biases like:- overconfidence, Disposition, Herding and risk taking behaviour.	Secondary data is analysed by using SPSS 16& Amos20.	Personality traits such as agreeableness, openness, and neuroticism are affected by herd biases.
Moradi, Mahmoud & Mostafaei, Zeinab & Meshki, Mehdi. (2013).	A study on investors personality characteristics and behavioural biases: conservatism bias and availability bias in Tehran stock exchange.	Management Science letters.	To measure the relationship between personality dimensions of investors and conservatism and availability biases.	Simple Random Sampling method	Independent variable are:- personality factors like Sensation v\s Intuition Feeling v\s Thinking Judgment v\s Perceptual Introvert v\s Extroversion. Dependent Variables Behavioural biases like	Chi Square Test, Correlation analysis. Myers Briggs Type indicator (MBIT) Model is used for assessing personality of investors.	The study shows that there is no significant correlation between the variables like thinking vs. feeling and introversion/extroversion with conservatism biases. But these two personality dimensions are correlated with availability biases. Perceptual dimensions like sensation, intuition, feeling, thinking, and judgement are negatively related to

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
					availability bias and Conservation bias.		availability bias in the Tehran stock exchange
(Wong. & Carducci .B, 2013)	Does personality effect personal financial risk tolerance behaviour?	IUP Journal of Applied Finance	To study the relationships between financial risk tolerance and personality dimensions of investors.	Not mentioned in the study	Personality traits and risk factors	Percentage analysis	The study reveals that men have a higher risk tolerance than women, but that risk tolerance is not affected by age. Extraversion and openness are positively linked with financial risk tolerance. Conscientiousness and agreeableness traits are negatively linked to financial risk tolerance.
(Chitra & Sreedevi, 2011)	Does Personality traits Influence the choice of Investment	IUP Journal of Behavioural Finance	To analyse the impact of personality factor on investment decisions.	Stratified random sampling	Personality Traits Investment Choice	Percentage analysis	The present study examines how personality traits such as emotional stability, extraversion, conscientiousness, and reasoning, agreeability etc. impact choice of invest decisions. The result of the study reveals that personality factor have a greater

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
							significant impact on ones investment decision than demographic factors.
(Mayfield & Perdue, 2008)	Investment management and personality type	Financial Services Review	To investigate the relationship between personality and behavioural biases	Not mentioned in the study	Personality factors, behavioural biases	SEM analysis	Extravert personality types are more engaged in short-term investing. Risk-averse individuals are more engaged in long term investing. Individuals who are more open to experience and engaged in long term investing.

Table 2.4

Studies relating to investment Performance of the investors

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Lebdaoui, Youssef Chetioui , & Elias Guechi,, 2021)	The Impact of Behavioural Biases on Investment Performance: Does Financial Literacy Matter?	International Journal of Economics and Financial issues	To examine the presence of behavioural biases (overconfidence, anchoring, representation, and herding) among Moroccan investors. Financial literacy has a negative impact on overconfidence biases, but it has a strong impact on representatives biases.	Snowball sampling method	Biases Investment performance Financial literacy	SEM and correlation analysis.	The investment performance is highly influenced by cognitive biases like overconfidence and representativeness biases. Financial literacy has a negative impact on overconfidence biases and a strong impact on representatives bias.
(Luong & Le Phuoc; DoanThi., 2021)	behavioural factors influencing individual investors' decision-	Research Gate	To investigate behavioural elements affecting the investors. To investigate	Stratified random sampling	Behavioural biases Investment performance	Descriptive Statistics, Factor Analysis, Cronbach's Alpha test,	Behavioural factors such as herding, overconfidence, gambler fallacies, and anchoring biases affect investors. Behavioural biases such

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
	making and performance a survey at HO Chi Minh stock exchange		whether investors have any behavioural biases and how those biases affect their investment performance			SEM analysis.	as herding, prospecting, and heuristics affect investment performance. Heuristic behaviour highly affects investment performance, while herding behaviour has a favourable impact on investment performance at a lower level.
(Hind, Youssef Chetioui, & Guechi Elias., 2021)	The Impact of Behavioural Biases on Investment Performance: Does Financial Literacy Matter? Hind, Youssef Chetioui, & Guechi Elias., 2021)	International Journal of Economics and Financial.	To examine whether Moroccan investors susceptible to the behavioural biases of overconfidence, anchoring, representation, and herding, and to what extent? To identify the relationship between financial literacy and the biases.	Not mentioned	Behavioural biases Investment performance Financial literacy	SEM, Factor analysis	Financial literacy has a strong positive impact on representativeness, while it was found to have a negative relationship with overconfidence bias. Overconfidence and representatives bias have a positive impact on financial performance.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
(Rafique, Attari Muhammad, Umer Kalim Usama , & Sheikh Muh, 2020)	Impact of Behavioural Biases on Investment Performance in Pakistan: The Moderating Role of Financial Literacy	Journal of Accounting and Finance in Emerging Economies	To identify the impact of behavioural biases such as overconfidence, loss aversion, anchoring, and herd behaviour on the investment performance of equity investors. To analyse the moderating role of financial literacy between behavioural biases and investment performance	Simple random sampling method	Behavioural biases Financial literacy Investment performance	Regression analysis, AMOS and SEM etc are used for analysing data.	Behavioural biases such as overconfidence and anchoring have a positive and significant effect on the investment performance of investors. Behavioural biases such as herding and loss aversion have little effect on investment performance.
(Dima Waleed Hanna Alrabadi, Shadi Yousef Al-Abdallah,, & Nada Ibrahim Abu Al jar, 2018)	Behavioural Biases and Investment Performance: Does Gender Matter? Evidence from Amman Stock Exchange	Jordan Journal of Economic Sciences,	To examine the presence of behavioural biases in Amman Stock Exchange and their effect on investment performance	Not mentioned in the study.	Behavioural biases , Investment performance & gender	Regression analysis, Chi-square test and t-test.	The chi square test shows that there is a negative impact of overconfidence bias, availability bias, familiarity bias and herding bias and representatives

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
			The study investigates whether males and females have different behavioural biases.				bias on investment performance. In terms of Behavioural biases, there is no statistically significant difference between males and females.
(Kumari Nidhi & Sar Ashok., 2017)	Cognitive and behavioural biases influencing investment performance	ZENITH - International Journal of Multidisciplinary Research	To examine the relationship of overconfidence bias, herd bias, and risk tolerance bias on investment performance.	Convenient sampling Method	Cognitive biases Investment performance	Descriptive statistics, and multiple regression analysis.	The study shows that overconfidence biases affect investment performance, and herd behaviour affects trading patterns. Trading volume, herd behaviour, and speculative risk tolerance highly related with their investment performance.

Table 2.5*Studies related to emotional intelligence and behavioural biases of the investors*

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Saloni Raheja & Babli Dhiman 2020.	How do emotional intelligence and behavioural biases of investors determine their investment decision.	Raja Giri Management Journal	To investigate relationship between the dimensions of emotional intelligence and the investment decisions of equity investors in Panjab State To analyse the relationship between behavioural biases and investment decisions. To analyse the relationship between behavioural biases and investment decisions	Purposive sampling method.	Emotional intelligence and bhavioural biases etc.	Anova test	The study revealed a strong positive Emotional intelligence reduces behavioural biases of the investors. Investors who score highly on emotional intelligence invest more in the stock market.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Rekha Narang, Ankit Trivedi 2020	Impact of Emotional intelligence on investment planning and Decision making	Qualitative and Quantitative Research Review,.	To examine the role of emotional intelligence and financial literacy on the investment decision-making of investors.	Not mentioned in the study	Emotional intelligence financial literacy and investment Decision	Percentage analysis	Emotional intelligence and financial literacy have a positive impact on investment decision making of the investors.
Babli Dhiman &Saloni Raheja 2018	Do Personality Traits and Emotional Intelligence of Investors Determine Their Risk Tolerance?	Management and Labour Studies, Jamshedpur, School of Business Management & Human Resources.	To analyse the association between different personality traits and investors' risk tolerance level.	purposive sampling technique.	Independent variables:- Personality traits and Emotional intelligence Dependent variable:- Risk tolerance	Multiple regression analysis	The study reveals that personality traits and emotional intelligence are highly influential on the investment decisions of investors. Emotional intelligence factors like self-awareness, motivation, and handling emotions are directly associated with the risk tolerance level of investors. The authors of the study conclude that emotional intelligence factors have more influence on risk tolerance than personality traits.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Mumtaz Ahmad (2018)	Impact of neurotransmitters, emotional intelligence and personality on investors behaviour and investment decisions.	Journal of commerce and social science	To examine the relationship between neurotransmitters, emotional intelligence, and the personality of equity investors. To analyse the impact of personality on investment decisions.	Multistage random Sampling	Main latent variables Neurotransmitters, (NT) Emotional intelligence(EI) Big five personality traits .	SEM & Regression Analysis etc	Personality factors such as openness and consciousness and emotional intelligence factors like self-management and regulation of emotions have positive relations with investors investment horizons, control levels, and personalisation of loss. Neurotransmitters and personality factors have a collective 13.2% impact on investment behaviour and are highly correlated among investors.
Biju Thomas Mittath et. Al (2018)	Impact of Emotional intelligence on investment Decisions	Journal of Management Research and Analysis	To study the emotional intelligence of individual investors in making short-term and long-term investment decisions	Simple random sampling	Emotional intelligence, short term and long-term investment Decisions.	Chi Square test	The present study examined the differences and similarities between high and low emotional intelligence and investment decisions among the investors.

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
							Investors with high levels of the emotional intelligence factor have a long-term investment intention, while those with low levels of the emotional intelligence factor highly prefer short-term investment options.
Muhammad Tanvir, Muhammad Sufyan & Aitzaz Ahsa 2016	Investor's Emotional Intelligence and Impact on Investment Decision	International Journal of Academic Research in Economics and Management Sciences	To examine the role of emotional intelligence in decision making of investors at sample from Karachi, Lahore and Islamabad stock exchanges.	By using purposive sampling 225 investors are selected for the study	Self-Awareness Self-Management Motivation Empathy Relationship- Management	Regression analysis, Mean, SD, and Skewness	The study reveals that self-awareness, which is the most important part of the investment decision, followed by self-management and motivation. In the emotional intelligence factors, motivation helps investors by assisting them in setting goals and working hard to achieve them. Self-awareness allows investors to learn about themselves and identify their own strengths and weaknesses. Self-

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
							<p>management helps investors make the right decisions in complex situations.</p> <p>The role of empathy is that stock investors are good at detecting what others are feeling while they are in difficult situations. While relationship management is not found in decision-making.</p>
<p>Enrico Rubaltelli, Sergio Agnoli, Michela Rancan and Tiziana Pozzoli (2015</p>	<p>Emotional Intelligence and risk taking in investment decision-making</p>	<p>CEFIN Working Papers No 53</p>	<p>To examine whether emotional intelligence is related with risk taking behaviour of the respondents</p>	<p>Convenient sampling method</p>	<p>Risk taking Behaviour Emotional intelligence</p>	<p>ANOVA</p>	<p>The present study demonstrates that high sensitivity to emotions allows people to manage them more effectively without becoming entrapped by their fear of losing money.</p> <p>Respondents with high EI traits are more likely to take risks and ready to invest in the stock market</p>

Author	Title of the study	Journal	Objectives	Sampling	Variables	Tools for analysis	Findings
Reza Pirayesh (2014)	A study on the effect of emotional intelligence on retail investors' behaviour	Management Science Letters	To examine emotional intelligence components in retail investors at the Tehran Stock Exchange (TSE). To analyse various behavioural biases such as representation, mental accounting, and risk aversion among the investors.	Convenient sampling	Emotional intelligence, investment decision and behavioral biases.	Spearman correlation test	Investors with a high level of risk aversion have higher emotional intelligence. There is no significant relationship between behavioral biases such as representatives bias, mental accounting bias, risk aversion bias, and interpersonal characteristics such as stress management and general personality of investors.
Naser Ezadinea & Saeed Fathi (2011)	The Effect of Emotional Intelligence on Portfolio Performance of Stakeholders: Empirical Evidence from Iran	Interdisciplinary Journal of Contemporary Research in Business	To measure how EI factors impact portfolio performance	stratified random sampling technique	Emotional intelligence (Self-awareness, managing emotions, Self-motivation, communication, emotional direction, portfolio performance	Multivariate analysis of variance (ANOVA), regression analyses	Regression analysis showed that there was a positive impact EI on portfolio performance. Self-awareness and communication have impact on portfolio risk of stakeholders.

2.2 Reviews based on Thesis/Dissertation

Table 2.6

Reviews based on Ph.D. Thesis

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
Sukanya A R . (2019)	University of Mysore.	Behavioural biases in investment decision making process a study of retail individual investors in Karnataka	<p>To find out how behavioural biases affect investment decisions of investors.</p> <p>To compare the perceptions of retail investors with single and multiple investment avenues</p> <p>To examine inexperienced and experienced investors' perceptions of recognised behavioural biases in single and multiple investing channels.</p>	By adopting a simple random sampling method with primary data collected from retail equity investors in Karnataka. Correlation, regression, and SEM analysis etc.	Behavioural biases, investment decision making.	<p>Investors who have only one investment option are more susceptible to cognitive dissonance and familiarity bias. Investors holding multiple investment avenues are affected by confirmation bias and status quo bias.</p> <p>Overconfidence biases, cognitive dissonance biases, availability biases, familiarity biases, etc. are highly affected among the investors.</p> <p>The author concludes the work by giving a suggestion that investors should consult analysts and make proper analyses before making investment decisions.</p>

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
Singh Unyendra 2019	Mohan Lal Sukhadia University	A study of effects of behavioural biases on investment decision making	To examine the decision- making process elements that influence individual investor behaviour. To analyse whether behavioural aspects have any bearing on investors 'decision-making.	Multi stage random sampling techniques is used for data collection and various statistical methods is also used for analysing the primary data .	Behavioural biases such as overconfidence bias representativeness, herding, loss aversion, regret aversion, disposition effect, cognitive dissonance bias.	Using Chi-Square tests, it was found that different biases influenced each investor's investment decisions. The majority of investors are risk-averse and would rather sell a losing stock rather than invest in one that is on the rise. Male investors take higher risks than female investors.
S, Senthil Kumar 2019	Anna University	investors behaviour towards equity investment	To examine the relationship between demographic factors and personality traits, investor attitude bias, and investor behaviour Assess the influence of personality traits, attitude bias, and investment behaviour on investment behaviour. To evaluate the direct and indirect consequences of personality factors,	Purposive sampling is used to collect data from 430 retail equity investors from Namakkal at Namilnadu. The primary data were analysed using the Chi Square Test, Regression analysis Pearson Correlation Analysis, and	Big five personality traits Demographic factors and Behavioural biases such as anchoring regret aversion optimism overconfidence biases.	The anchoring and risk propensity biases show a substantial association with the investor attitude bias. The study reveals that there is a good positive association between respondents 'gender and their stock selection behaviour. Contentiousness is the most important personality trait in investor behaviour, followed by neuroticism, agreeableness, extraversion, and openness to experience. The

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
			investor attitude bias, and investor behaviour	Structural Equation Model (SEM).		personality qualities of neuroticism and contentiousness have a very strong association with each other.
Aradhana Bhopte (2019)	“Impact of behavioural biases and financial literacy on investment decision and investment performance-an analytical study of Indian equity market investors of MP.”	Jiwaji ,University,Gwalior	To determine the impact of behavioural biases and financial literacy on individuals, investors investment decisions, and performance To examine the role of demographic factors in investment decisions	Convenience sampling technique is used for collecting the data .statistical analysis techniques such as factor analysis, one way ANOVA, T test, SEM etc are used for analyzing the data .	behavioral biases, financial literacy, investment decision and investment performance	The study shows that behavioral biases and financial knowledge have a considerable impact on investor decisions. All characteristics, including heuristics, prospects, and financial literacy, have statistically significant effects on investment performance.
S. Madhu Madhavi (2019)	Pacific University	Emotional perceptions of investors towards equity market an empirical study	To identify various sociolect-demographic elements influencing investment decisions. To examine how individual investors' emotional factors affect their investment decisions To identify the more	primary data collected by using simple random sampling method. statistical analysis is done by using various	Emotional factors, Demographic factors	Experience in trading is positively correlated with personality and emotional intelligence. Risk aversion behavioural factors and investment. the interactive effect of age, gender, experience in trading and occupation indicate that the demographic factors

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
			significant factors affecting investors in stock trading.	statistical tools such as one-way Anova, factor analysis		can be pooled together to define heterogeneous investors group. understanding Investor demographic features may assist financial practitioners in developing good portfolios for them
Biju Thomas Muttath 2018	Barathiyar University	Personality and emotional intelligence among retail investors among retail investors 2018	To identify the similarities and differences between individual investors' short- and long-term investment patterns, with a particular emphasis on the dimensions five factor model of personality . To investigate the impact of various EI features on the level of self-monitoring.	469 equity investors from Kerala are selected for the study. various statistical tools such as ANOVA, regression and correlation method is also used for analysis.	self-monitoring, emotional intelligence personality traits	The study shows that short-term investors scored highly on the Big Five personality traits: extraversion, neuroticism, and agreeableness. Long-term investors, on the other hand, scored well on the Big Five personality traits of openness to experience and consciousness. Individual investors who score high on agreeableness are more likely to trust peer recommendations, which can lead to herd behaviour. Investors with high levels of consciousness are more likely to make investments, whereas those with high levels of neuroticism are

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
						more likely to avoid doing so.
Bhatt, Kruti P (2018)	Veer Narmad South Gujarat University	Impact of behavioural biases On Individual Investor behaviour_ A study of equity investors in surat.	To investigate the relationship between demographic features and behavioural biases. To examine the interconnection between frequency of trading and experience of investors. To determine the different elements impacting investors investment choice.	The snowball sampling technique is used to collect data from equity investors in Surat. Statical analysis is done by using Chi-square Test, independent sample t-test	Demographic factors and various behavioural bias such as anchoring bias, availability bias, herding, mental accounting, overconfidence, status quo biases. etc.	Anchoring and overconfidence biases are the most common biases among the investors.
Nandini, (2018)	Pondicherry University	Gender differences in investment behaviour with reference to equity investments	To analyse the demographics profile of investors. To examine gender difference in equity investment.	Snowball sampling method was adopted to collect data from the respondents of investors at Pondicherry Tamil Nādu Chi-square test, ANOVA and t	Investment decision, demographic factors etc.	Demographic factors such as age, marital status, and income of the respondents influence their investment. The result of the chi-square test reveals that gender and investment decision-making are related. Males are more risk-taking and knowledgeable about various investing avenues. whereas females have less

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
				tests etc., are used for analysis purpose.		knowledge of investing and are not likely to take risks.
Neelakantan .P R 2018	Sri Chandra sekharendran Saraswathi viswamaha vidyalayam, University, Kanchipuram	Behavioural finance- a special study on investor psychology	To ascertain the relationship between demographic factors and the risk preferences of investors. To identify the psychological biases that influence investors investment decisions	By using the simple random sampling method, data was collected from investors in Chennai city. The interconnection between cognitive and emotional biases is tested through various statistical tools.	Cognitive biases, emotional biases and demographic factors.	Behavioural biases such as anchoring, mental accounting, confirmation, herding, and hindsight bias highly correlated with investment decisions. The investment decision made by investors in Chennai city are negatively connected with emotional biases such as overconfidence bias ,loss aversion bias, regret aversion bias.
Sachann Abhishek 2018	Nirma university	A study of relationship between personality traits and demographic characteristic with behavioural biases of individual investors.	To examine the relationship between demographic factotres and behavioural bias of the investors. To examine whether there is any relationship between personality traits	Multi-stage random sampling techniques are used to collect data from 516 individual investors across Gujarat. Various tools	Demographic variables investment biases big five personality factors	Demographic factors lead to various behavioural biases. Females are more affected by behavioural biases than males. Middle-aged investors are more optimistic. Personality and biases are related; investors with agreeableness traits exhibit

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
			and behavioural biases of individual s	such as ten - item personality measure inventories (TIPI). Anova test, Chi square analysis, SEM analysis and regression method etc are used for analysis of data		familiarity biases. Investors with a conscientious personality are highly affected by availability and self-attribution biases.
Muhamed Nishad 2018	University of Calicut	Share price volatility in Indian Stock Market a study with special reference to behavioural aspects of investors in Kerala	To examine the pattern of stock price volatility in the Indian capital market. To analyse the behavioural bias and emotional intelligence of individual investors in Kerala. To analyse how security analysis, behavioural bias, and emotional intelligence affect the investment performance.	Stratified sampling methods is used for data collection . statistical tools such as SEM analysis, t tests, ANOVA, correlation, etc. are used to analyse primary data.	Security analysis,behavioural biases, Emotional intelligence, investment performance	Emotional bias, information processing bias, and belief perseverance bias all have a negative impact on investment performance. The emotional intelligence of investors has a significant impact on their investment performance.

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
Sandeep Lila Dhar Chope 2017	Pacific University	Impact of demographic factors personality traits and behavioural biases on Investment decision making A comparative study of conversant investors and non conversant investors in Mumbai city	To analyse how demographic factors effect financially conversant and non-conversant investors	550 investors are selected from Mumbai by using convenient sampling methods. Statistical tools such as SEM analysis, correlation, regression, etc. are used for data analysis.	Demographic factors behaviour biases, personality traits Financially conversant investitures and non-financially conversant investors	There is a positive correlation between financially conversant and non-financially conversant investors. Investors personality features and behavioural biases are positively correlated.
Gupta, Yamini (2016)	Jamia Milia Islamia University	Behavioural finance a study on investors behaviour towards equity market investment with reference to investors of Delhi	To examine the presence of behavioural biases among investors. To check the level of association between various demographic variables and the factors influencing the investment decision-making process	A convenient sampling method is used for collecting data from the 380 investors from the Delhi region. Statistical tools such as the Fest and T tests are used for data analysis.	behavioural biases& Demographic factors	The Chi-square test reveals that behavioural biases such as regret aversion, herding, overconfidence, and representativeness biases affect both experienced and inexperienced investors. Demographic factors are significantly associated with the losses suffered by them. Married investors are highly affected by loss-of-aversion bias.

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
Mr. Rajesh Kumar 2016	Ganapati University, Gujarat, India.	A study on factors affecting individual investor's sentiment towards equity market.	To identify the factors that affect investor sentiment in the Indian stock market. To examine the types of information investors, seek while trading in stock market .	Snowball sampling techniques are used to collect data from equity investors in Kerala using statistical tools such as multiple regression, factor analysis, etc. are used to analyse the primary data.	Demographic factor macro-economic factors and behavioural biases	The financial characteristics of the company, psychological factors, events surrounding the stock, book value of the stock, management quality, sector attractiveness, and past price performance of the stock are the important factors that determine investors' stock market participation. Herd behaviour and macro-economic factors are significantly affecting investors investment decisions.
Metha, Swathi M 2016	Veer Narma South Gujarat University	Big five personality traits and behavioural biases of Individual investors In Indian equity market_ An empirical analysis	To analyse the relationship between behavioural biases and trading behaviour, such as the disposition effect, status quo effect, and ostrich effect. To examine whether there exists any causal connection between investor behavioural	Man whintny U test ANOVA, SEM, Cluster analysis etc arethe important statistical tools used for analysis .	Personality traits,behavioural biases	The findings, there is a positive relationship between personality traits and behavioural biases among stock investors. Personality factors such as extraversion, openness, and agreeableness have a positive and significant

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
			<p>biases and investment performance.</p> <p>To check the role of demographic factors, behavioural biases, and investment performance on investment decisions.</p>			<p>impact on overconfidence and self-attribution bias.</p> <p>Recency bias and anchoring bias are influenced all dimensions of personality traits in a favourable and significant way.</p>
Rajesh kumar	Ganpat University	A study on factors affecting individual investor s sentiment towards equity marke.	<p>To examine an investor’s sentiment concept.</p> <p>To identify the factors affecting investors' sentiment in India.</p> <p>To examine the types of information individuals evaluate while selecting stocks</p>	Factor analysis, ANOVA etc	Investor behaviour, Investment decisions, behavioural biases	The findings of the study show that herd behaviour, macroeconomic factors, access to information and trading, and performance factors affect investors investment decisions. The expected events around the stock and book value factors, management quality, and historical performance all explain why investors participate in the stock market.
Jain Nidhi 2015	Teerthanker Mahaveer University	Personality traits and investment behaviour a demographic comparison of Haryana state.	<p>To find out the different types of personality traits among the investors.</p> <p>To examine the how demographic factors affect investment</p>	Convenient sampling method is used to collect data from 840 equity investors in	<p>Personality factors</p> <p>behavioural bias</p> <p>Risk tolerance level</p> <p>Investment behaviour etc are the important</p>	Investment decisions highly vary according to gender, age, and educational qualifications of the respondents. Investors’ personalities

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
			behaviour of equity investors. To identify the relationship between personality factors and the investment character of investors.	Haryana at India.variuous statistical tools such as mean, Karl pearson correlation coefficient and t- test etc is used for analysing the data .	dimensions of the study .	have a moderate influence on their decision-making. Risk-bearing capacity varies according to the personalities of investors. Investors with agreeableness, openness traits and extraversion are extremely risk-averse.
T.Sutha (2015)	University of Madaras	Stock market and investor behavioural market efficiency and investment bias	To investigate anomalies in stock market. To examine the psychological biases of investors.	Two stage stratified random samplings used for collecting data from the individual investors at . One way ANOVA etc used for analysis of data	behavioural biases market efficiency, demographic factors	Gender differences have a positive impact on investing patterns and trading experiences in the stock market. Age, occupation, educational qualifications, and trading frequency were different among the respondents. Event analysis shows that the Indian stock market is inefficient in weak form.

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
Prabha Rajagopalan 2013	University of Madras	A Study On The Behavioural Biases And Perception Of Retail Investors In Stock Market	<p>To check the relation between behavioural biases and personality traits of investors.</p> <p>To examine financial knowledge of retail investors.</p> <p>Risk aversion and personality is related ?.</p>	<p>Descriptive and analytical method of research design is used in the study. By using snowball sampling method 666 investors are selected from Chennai city. Statistical tools such as factor analysis</p> <p>T test ,One way anova , chi-square test etc. used for analysis of data.</p>	Demographic factors, behavioural biases, personality traits	Chi square analysis shows biases and personality factors are related.
Rahul Subash 2012	Charles University in Prague	'Role of behavioural Finance in Portfolio investment decisions: evidence from India	<p>To examine behavioural biases among stock market investors.</p> <p>To analyse the impact of various investment biases on portfolio investment.</p>	<p>By using convenient sampling method primary data collected from the respondents. Chi-square test and discreminent t</p>	Behavioural biases and demographic factors, investment decisions etc.	<p>With the exception of cognitive dissonance bias, investors suffered from all eight biases in a significant manner.</p> <p>The analyses revealed that regret aversion, gamblers' fallacy, had a significant</p>

Author	University	Title of the study	Objectives of the study	Methodology	Dimensions	Findings of the study
				analysis etc is used for data analysis		<p>impact on younger investors.</p> <p>As compared to experienced investors, young investors are highly affected by anchoring, gamblers' fallacies, and hindsight biases.</p>

2.7 RESEARCH GAP

After an extensive literature review in behavioural finance, it was found that lots of studies are conducted to assess investor behaviour in the Indian stock market. But only a few studies have been conducted to assess the various investment biases exhibited by equity investors. There are only a limited number of studies conducted to measure the relationship between investment biases and various personality traits, emotional intelligence factors, and the investment performance of equity investors in Kerala. Further, behavioural finance is still in its infancy stage, so there is a need to conduct more research on this topic. So the present study tries to fill this research gap in the literature. This type of study will help to identify unexplored areas such as how investors' personalities and emotional intelligence impact their stock investment decisions.

2.8 CONCLUSIONS

Various national and international-level studies are reviewed here. Studies relating to investor personalities, behavioural biases, emotional intelligence factors, and the investment performance of stock investors are reviewed as part of the literature survey. PhD theses and reputed articles are selected for this. More than 160 studies have been referred for the present study; later, it was shortlisted to 94 by including studies directly linked to the topics. From this, the researcher identified the research gap for the present study.

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Chapter 3

Theoretical Framework

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3.1 INTRODUCTION

A theoretical framework is a review of existing theories that help the researcher in every step of the research. It includes a group of concepts and assumptions that form the basis for understanding a problem. In research, theoretical frameworks help to explore research gaps in the literature, the development of research questions, methodology and conceptual frameworks, identify the relationship between different variables, formulate hypotheses and also help in the interpretation of results and make suggestions.

Investment in Stock Market: Everyone invests their money in various investment avenues to meet their future needs. Investment simply means a commitment made by using funds set aside for current costs in the hope of future profit. Fisher and Jordan (2006) define investment as a commitment of funds made in the expectation of some positive return. If the investment avenue is selected properly, the investor will receive a good return for bearing the risk. There are a lot of investment avenues available to investors. Investment assets are generally classified into two categories: Real assets and financial assets. Real assets include plant and machinery, land and buildings, real estate, etc. Financial assets include government security, post office savings, mutual funds, shares, etc. Returns and risk are the important factors that affect investors investment plans. Investment decisions affect our future wealth, so better financial planning helps us gain profit in the future.

The economic development of a nation is highly related to stock market development. According to Nazire et al. (2017), stock marks are a key source of capital required to carry out industrial and commercial activities in the modern economy. By selling shares to local and international individuals and organisations, it helps the corporation

raise money to finance their activities. It also provides a platform for foreign institutional investors and mutual fund managers to find a place for their investments. Equity investment is a very important investment option in the Indian stock market. Although it carries a high level of risk, it also provides a higher return. Equity investment is influenced by a number of variables, such as market sentiment, the political background of the economy, firm performance, the economic condition of the nation, and various behavioural factors, such as personality-related factors, emotions, and the mood of the individual's investment decisions. Investors must be aware of all the factors in order to minimise the risk and receive a healthy return from the stock market.

The present chapter discusses the evolution of behavioral finance theories from traditional finance theories. It critically examines the implications of traditional finance theories and also discusses the various limitations of conventional finance theories, presence of various behavioral biases among the investors, their impact on the secondary market, and how personality and emotional intelligence factors lead to various behavioral biases among the equity investors. The selection of theories has taken in to account the objective and research question.

3.2 THEORIES OF FINANCE

Finance theories can be categorized in to two groups such as standard or traditional finance and behavioral finance.

3.2.1 Traditional Finance Theories:- Traditional finance assumes that people make financial decisions based on data, risk aversion, and sound analysis. Standard finance assumes human beings act logically when it comes to financial decision-making. Economic man, perfect rationality, and perfect self-interest are the basic backbones of traditional economic theory, while modern finance theory discusses the irrationality of investors decisions.

3.2.1.1 Rational economic man: In the mid-18th century, the concept of utility was introduced. Utility measures the satisfaction level of customers by using goods or services. In 1844, John Stuart Mill introduced the term “rational economic man (or

homo economicus”. A rational economic man is selfish and a rational maximiser of his own personal utility.

“Rational economic man” - the concept serves as the foundation of most economic theories. The three important assumptions that exist about the rational economic man are: (1) they are rational; (2) they are selfish; and (3) they collect complete information. Later, all the assumptions served as a foundation of traditional financial theory. The following is the various theories were popular prior to the development of behavioural finance.

Table 3.1

Important traditional finance theories

Author	Year	Findings
John Stuart Mill	1844	Introduced the concept of Economic Man
Bernoulli & Von Neumann	1944	Expected utility theory
Harry Markowitz	1952	Markowitz portfolio theory
Treynor, Sharpe and Lintner	1962, 1964, 1965	Capital asset pricing model
Eugene Fama	1970	Efficient market hypothesis

3.2.1.2 Capital Asset Pricing Model (CAPM): The CAPM model demonstrates the relationship between risk and the expected return of investing in a securities. It describes that a risk-free return plus a risk premium equals the expected return of a security. The important assumptions of this model are: (1) Investors are risk-averse. (2) Decisions are made on the basis of risks and returns. (3) The risk and return expectations are the same. (4) Information is freely available; (5) Borrowing and lending are unrestricted at a risk-free rate. (6) All investors are rational.

3.2.1.3 Efficient market hypothesis. :-Eugene Fama introduced the concept of EMHS in 1965. He defines an efficient market as one in which all the participants have easy access to all the most recent information and a large number of profit maximisers are actively competing with one another to estimate the future market

price of individual assets. The current price of the stock fully reflects all information about the stock market. In the securities market, stocks always trade at their fair value. So one can't beat the market by purchasing undervalued stock and selling stock at a high prices, it should be impossible to outperform the overall market through expert stock selection or timing and the only way an investor can get an abnormal return is by purchasing riskier securities. EM.H. considers market efficiency in three different forms based on the type of information.

Table 3.2

Efficient Market Hypothesis and its various forms

Form	Description
1 Weak form	Past information and return are reflected in current market price. By using past information nobody can earn abnormal returns.
2 Semi Strong form	All publically available and past information is reflected in current price of the stock hence nobody can earn abnormal return by using this information .
3 Strong form	All public, private information are instantly incorporate quickly in share price. Insider trading cannot be used to attain abnormal profits.

Criticisms against EMH

- All investors make investment decisions based on the same expectations. This assumption has been questioned by many researchers.
- All participants in the stock market have equal access to information, which may not be true in the real market.
- Limited to arbitrage: Limits to the arbitrage process explain that arbitragers may not be able to earn profit from market dislocation caused by irrational traders and psychology, which catalogue all possible kinds of deviation that we see in the financial market.

- **Investor irrationality:** Investors are not fully rational, they often trade on noise rather than information. The irrationality of investors can be examined by behavioral patterns in the stock market, such as holding losing stock, accepting advice from financial gurus, failing to diversify, etc.

Challenges to EMHS

1. Market Bubbles and Crashes

Market bubbles which occur when economic fundamentals are materially overvalued on the stock market, and the ensuing crashes are important examples of market inefficiencies. Market bubbles are recognized when there has been a significant price increase and then a sharp contraction.

2. Stock Market Volatility

Stock market hyper volatility, or significant increases and drops over time, should not be greater than the underlying volatility in the fundamental value in a completely efficient market. In contrast, whereas stock prices fluctuate, fundamental value indicators, such as dividends, vary quite slowly. Given the low degree of observed volatility in dividends, this has led detractors of the Efficient Market Hypotheses to claim that stock prices are excessively volatile.

3. Investment Fraud

Investment fraud is a serious white-collar crime that can take many different forms but is typically done by fabricating data that investors use to make decisions. Investment fraud is the use of false or deceptive information to induce the sale or purchase of an investment.

3.2.2 Behavioral Finance Theories

The tradition of finance theory is unable to determine the reason behind market anomalies. Investors frequently exhibit illogical behaviour and trade excessively by following the crowd. Dot-com bubbles in the 1990s and real estate crashes in 2006 are some examples. The concept of rational economic men is not valid. Here comes the emergence of behaviour finance, which discusses the irrationality of investors in

decision-making. The major theories in the field of behavioural finance are discussed below.

3.2.2.1 Prospect Theory:

Prospect Theory was a benchmark in the field of behavioural finance developed by Daniel Kahneman and Amos Tversky in 1979. This theory is associated with how individuals or a group of individuals make decisions under risk and uncertainty. As per this theory, investors frequently give greater emphasis on their losses than gain. Humans dislike losses more than equivalent gains; we are more likely to take risks in order to avoid a loss than to take a risk in order to obtain an equivalent gain. This theory also describes how people frame and value their decisions regarding their investments.

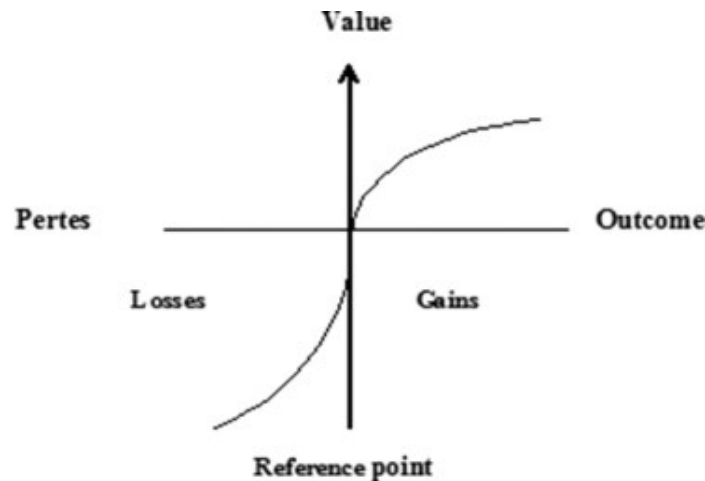
According to prospect theory, an individual focuses on his outcomes regarding any decision. Economists claim that an individual senses pain more intensely from loss as compared to pleasure from the same gain. This theory is a statistical illustration of how an average individual's behaviour affects their decisions. Prospect theory reveals that an individual decision is based subjectively on a reference point that is unrelated to his financial status.

Phases of Prospect Theory

According to prospect theory, individuals make decisions in a two-stage process. Before considering all available information, they use some mental shortcuts to arrive at a conclusion. The following are the important phases of prospect theory:

(1) **The Editing Phase:** Under this phase, the decision-maker will use mental shortcuts to evaluate which information is important, rank their priorities, and decide which outcomes are most desired. It is important because it can create biases that emerge later in the decision process.

(2) **The Evaluation Phase:** People have made their final decision at this point. People give more weight to the probability of each possibility and base their decisions on them; they are not always founded on logical decisions.

Figure 3.1*Prospect value function.*

Source: Daniel Kahneman & Amos Tversky (1979)

3.2.2.2 Behavioural pricing theories:-Behavioural pricing theories are concerned with how investor psychology affects the market and financial decision-making. It seeks to identify how investor psychology leads to discrepancies between the market price of a security and its underlying value.

3.2.2.3 Behavioural portfolio theory:-Behavioural portfolio theory is a behavioural finance theory. That explains how investors construct their portfolio in layers influenced by their behavioral biases.

3.2.2.4 Behavioural efficient market hypothesis:- Behavioural efficient market hypothesis was developed by Shleifer (2000). The Behavioural efficient market hypothesis focuses on irrational investors in contrast to the efficient market hypothesis. The theory claims that in a real financial market, investors conduct trade against arbitrageurs whose resources are limited by risk aversion, agency problems, and short horizons.

The theories of Miller and Modigliani, the portfolio theory of Markowitz, the capital asset pricing model of Sharpe, Lintner, and Black, and the option pricing theory of Black, Scholes, Merton, etc. form the basis of standard finance theory. Modern economic theory is based on the idea that the economy's market is rational. The theory

makes predictions about the future and bases decisions on the idea of anticipated utility theory. Modern economic theory is based on the idea that the economy's market is rational. The theory makes predictions about the future and bases decisions on the idea of anticipated utility theory. Efficient market hypotheses determine how securities are priced. Evidence shows that many of the assumptions and findings associated with traditional finance are invalid.

3.3 Financial market Anomalies

Financial market anomalies simply refer to situations where the performance of a security or group of securities contradicts the assumptions of the efficient market's hypothesis. It indicates market inefficiencies. Anomalies in the securities market are classified into three categories, such as fundamental anomalies, technical anomalies, and calendar anomalies.

3.3.1 Fundamental Anomalies

Anomalies in trading financial instruments referred to as fundamental anomalies." This anomaly is related to stock fundamental analysis. Price-to-Book Value Ratio (P/B Ratio), high dividend yield ratio, low price-to-sales ratio, low price earnings ratio (P/E Ratio), EPS, etc. are the examples of fundamental anomalies. The core idea of the fundamental analysis is based on the fact that the market price of any financial instrument purely depends on the supply and demand for that instrument.

3.3.2 Technical Anomalies

Technical anomalies relate to technical analysis, which is an effective tool to predict stocks behaviour in the future . Technical analysis, uses stocks historical price and volume to forecast return on investment . Technical analysis forecast share price using relative strength index, resistance, support level, moving average, etc. It is said that individual investors can't beat the market and earn an abnormal return by using technical analysis tools. Technical analysis deals with inconsistencies with respect to EMH and is known as technical anomalies.

3.3.3 Calendar Anomalies

Calendar anomalies are also known as seasonal anomalies. These anomalies occur when we give special preference to specific weeks, days, or months in trade activities. For example, the January effect, the turn of the month effect, the weekend effect, etc.

(1) January Effect: It is the tendency of stocks to have a larger return in January than in other months of the year. The most likely causes for this anomaly has been attributed to the tax loss hypothesis. According to this hypothesis, investors sell in the month of December and buyback in the month of January. It is highly illuminating because, according to arbitrage pricing theory, anomalies in the market should disappear as traders try to exploit them in advance.

(2) December Effect: The tendency of stocks to outperform better in the month of December than in any other month of the year. This is due to the expectation of new products at the beginning of the next year.

(3) Monday/Weekend Effect: Stock returns on Mondays are lower than those of the immediately preceding Friday. This phenomenon in financial markets is known as the weekend effect.

(4) Turn-of-the-Year Effect: The turn-of-the-year effect describes the pattern of increased trading volume and prices of the stock in the last week of December, followed by a slight increase in the month of January.

3.4 BEHAVIORAL FINANCE

Traditional finance theories assume that the stock market is efficient in information processing and that all investors are rational. But in reality, a lot of questions arise about why the market is dynamic and volatile. Why does the stock market face serious anomalies like calendar anomalies, seasonal fluctuations, the week-end effect, the January effect, etc.? Why do all these phenomena occur? As a new branch of science, behavioural finance explains investor irrational thinking and its effects on the stock market.

Behavioural finance studies how emotions and psychology affect the investment decisions of investors. Shefrin (2002) argues the financial actions of individuals would be more understandable if we took them beyond the normal perspective of the market. Psychology isn't much more than fear and greed. In 2004, Re Bondt argued that behavioural finance is the theory that uses concepts from psychology to explain financial problems.

Behavioural finance explains why and how the stock market might be inefficient and how feeling and mental errors in thought can lead to overvaluation and undervaluation of stocks. Emotional and mood factors have an important role in determining the investment preferences of investors. Behavioural finance focuses on the mental mistakes that are frequently made by investors while making investment decisions. Through this branch of science, researchers identify the influence of psychology on investment decisions and its subsequent effect on the stock market. Behavioural finance explains how investors make common errors in financial decision-making as a result of emotions. Behavioural finance challenges the concept of EMH. According to this hypothesis, investors are always rational. But in reality, investors are not fully rational, and the market is not efficient in processing all available information.

3.4.1 Assumption/ Foundation Block of Behavioural Finance

- People are not fully rational when making financial decisions; they are susceptible to various emotional and cognitive biases.
- People are guided by expressive and emotional wants.
- Prospect theory: This theory describes how people make decisions in risky situations.
- Stock market is inefficient and it is very difficult to outperform in the market.
- Behavioural factors and risk determine the expected return on investment.
- Investors make financial decisions while considering the past information's.

3.4.2 Building Block of Behavioral Finance

Behavioural finance is built on three main building blocks (De Bondt, Mura Doglu, Shefrin, and Stai Kouras 2008). They are

- Sentiments
- Behavioural preference
- Limits to arbitrage

3.4.2.1 Sentiments: In the stock market, sentiments create lots of investment errors. Investors keep a lot of rules of thumb for decision-making. This create various biases. Some heuristic biases are representativeness bias, anchoring, overconfidence, availability biases, etc.

3.4.2.2 Behavioural preference: Investors exhibit various behavioural inclinations that counter commonly accepted beliefs that, the underlying worth of the stock is not sufficient to justify the volatility of the market. Developing strategies to support such investors who engage in irrational behaviour .Behavioural finance faces issues from errors caused by market intuitions. Such challenges also provide a lot of opportunities for behavioural financé.

3.4.2.3 Limits to arbitrage: The arbitrage process happens when rational investors spot a price difference in an asset in two different markets and purchase the asset from the lower-priced market and sell it in the higher-priced market. The efficient market hypothesis states that this intervention will help to correct and balance the market equilibrium. But in reality, if these rational traders work for asset management firms and investors play with other people's money, their actions will be heavily scrutinized. If they engage in arbitrage and the price remains imbalanced for a while, the client may be unhappy, and the trader may have to unwind the position at a loss. Therefore, there is a limit to the arbitrage that the trader can engage in.

3.4.3 Scope of Behavioural finance:

- It explains the reasons for various market anomalies, such as the calendar effect, the reason for the creation of bubbles, etc.

- As an emerging subject it helps to understand the financial personalities of investors.
- It helps to predict effect of corporate announcements such as stock splits, bonus issues, dividend decisions, etc. on investors and the entire market
- To help identify the various hedging strategies of investors.
- To predict the contagion effect of various events.

3.4.4 Contributors of Behavioural Finance

Many academicians, psychologists, and economists have immensely contributed for the development of behavioural finance. A few of them are discussed below: -

Richard H. Thaler: The concept of mental accounting was introduced. He contributed two books, such as *Can the Market Add and Subtract? Mispricing in Tech Stock Carve-Outs* In 2017, he won the Nobel Prize in Economics for his contributions to the development of behavioural economics.

Hersh M. Shefrin: Together with Statman, Shefrin developed the idea of the "disposition effect." Shefrin and Richard Thaler created a theory of self-control. "*Beyond Greed and Fear: Understanding Behavioural Finance and the Psychology of Investing*" is one of his best-known works.

Robert J. Shiller: Shiller was a pioneer in the behavioural finance industry. For their empirical study of stock prices, Shiller, Eugene Fama, and Lars Peter Hansen shared the 2013 Nobel Prize in Economics. His most famous work, *Irrational Exuberance*, correctly predicted the 2000 stock market crisis.

Daniel Kahneman and Amos Tversky: Daniel Kahneman and Amos Tversky are known as the fathers of behavioural finance. Daniel Kahneman received the Nobel Prize in 2002 in economics for integrating insights from psychology into economics

Anndrei Shelfier, from Harvard University, published a book entitled *Inefficient Markets: An Introduction to Behavioural Finance*’.

Table 3.3

Significant Contributions in the Growth of Behavioural Finance

Author	Year	Theory /concept /model
Herbert Simon	1955	Bounded Rationality Theory.
Festinger, Riecken and Schachter	1956	Theory of cognitive dissonance.
Tversky and Kahneman	1973, 1974	Introduced heuristic biases: availability, representativeness, anchoring and adjustment bias
Tversky and Kahneman	1979	Introduce Prospect theory and the concept loss aversion bias.
Richard Thaler	1985	Introduced mental accounting bias.
De Bondt and Thaler	1985	Theory of overreaction in stock markets.
Barberis, Shleifer and vishny	1998	Investor sentiment model for underreaction and overreaction of stock prices.
Meir Statman	1999	Behavioural asset pricing theory and behavioural portfolio theory.
Shefrin	2000	Beyond greed and fear: Understanding behavioural finance and the psychology of Investing.
Andrei Shleifer	2000	Linkage of behavioural finance with efficient market to find out market inefficiencies .
Barberies, Huang and Santos	2001	Incorporation of prospects theory in assets prices
Barberies and Thaler	2003	Survey of behavioural finance
Richard Thaler	2008	Impact of mental accounting on consumer choice behaviour

3.4.5 HISTORY OF BEHAVIOURAL FINANCE

In the mid-1980s, there was a series of frustrations from researchers because of the findings which contradicted the concepts of investor rationality and EMH. Financial crises and various anomalies, such as crashes and bubbles create major challenges for EMHS. Several noticeable prominent crashes and bubbles that leads to the development of behavioural finance are “Tulipomania” effects of 1634–1637. The Mississippi bubbles (1716–1720), stock market crashes in 1978, Black Monday, loan crises in 1980, etc. Researchers across the world are unable to explain the causes of the above-mentioned anomalies in the stock market's phenomena. The primary causes of these anomalies are either an inefficient market or lack of support to justify the reason for such anomalies, 1979 Kahneman and Tversky published a paper on prospect theory: Decision-making under risk used various psychological techniques to explain various financial anomalies. In that paper, they assert that "choices among risky prospects" exhibit a number of broadly applicable consequences that run counter to the fundamental tenets of utility theory. Their important qualities is that they attracted the interest of numerous academics in the 1980s. Over time, behavioural biases, including anchoring and overconfidence biases, were introduced into behavioural finance. Kahneman was awarded the Nobel Prize in 2002 for his work on human judgement and uncertainty-in decision-making. The main stream of journals in behavioural finance begins to publish papers related to limited to arbitrage, market inefficiency, overconfidence, etc.

Another study that describes human psychology and applies it to the field of finance is "The Crowd: A Study of the Popular Mind" by Le Bon (published in 1896). The "Theory of Moral Sentiments" by Smith, published in 1759, is another theoretical contribution that leads to the development of behavioural finance. It discusses the psychological aspects of human behaviour. In 1978, Herbert A. Simon won the Nobel Prize in economics for his contribution to modern economics and business administration. He introduces the theory of bounded rationality, which holds that people's ability to think logically is limited and personal and social ties among

individuals limit their ability to believe rationally. This theory contradicts classical economic theory.

Neoclassical economists created the idea of economic man. Renowned economist Keynes (1937) questioned the idea of a homo economicus man with perfect rationality, perfect self-interest, and perfect information. Leon Festinger (1957) opines that cognitive dissonance can happen when you act or behave in a way that is not entirely inconsistent with your values. If you have two or more competing beliefs, you should select the alternative. This is known as cognitive dissonance bias. In 1973, Tversky, A and Kahneman developed the concept of availability biases. According to them, availability heuristics create systematic biases. It is a mental errors among the investors that relies on immediate information.

Framing bias was discovered in 1981. In 1985, the concept of mental accounting, which is another cognitive bias, was introduced by Thaler. The theory of overreaction was discovered by De Bondt and Thale. Thaler, through his study” Does the Stock Market Overreact? opines that people tend to overreact to unexpected events. Weak forms of market inefficiency are also identified through his studies.

1999, Nicholas Barberish, Ming Hung, and Tano Santos demonstrated through their research that the agent's risk-aversion changes over time as a function of his investment performance. The end effect is that, as a function of his investment performance, the agent's risk aversion evolves over time. In the year 2000, Hersh published his book "Beyond Greed and Fear: Understanding the psychology of Investing,” which deeply explained the various developments in the area of behavioural finance.

3.4.6 CLASSIFICATION OF BEHAVIOURAL FINANCE

- Behavioural finance at Micro level (BFMI)
- Behavioural Finance at Macro Level (BFMA)

(A) Behavioural finance at Micro level (BFMI)

Behavioural finance micro branch analysis the behaviour or biases of individual investors (Pompian 2006) how they spend money, how they use of it.(pompain 2012).

(B) Behavioural Finance at Macro Level (BFMA)

Here we discuss “Are market is efficient or subjected to behavioural effects” (Pompani 2012) At this level we focus on the behaviour of stock market and anomalies in the market against efficient market and also questioning the concept of EMHS and describe anomalies in the efficient market hypothesis (Pompian 2006). BFMA suggest that collective decision of the investors affect the market. Behavioural finance assumes investors are not rational at the macro- and micro-levels and also questions the concept of efficient markets. Most investors are affected by various behavioural biases when making investment decisions.

Table 3.4

Standard finance verse behavioural finance

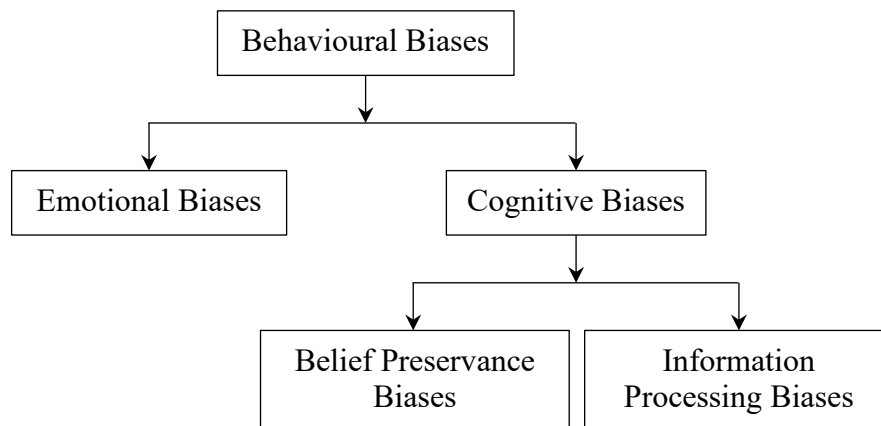
Standard finance	Behavioural finance
Investors are rational	Investors are normal
Help in building rational portfolio	Help in building optimal portfolio
Market is efficient	Market is inefficient
Believes in idealised financial behaviour	Believes in observed financial behaviour
Standard finance explain how investors should behave.	Behavioural finance explains how does investors behave.

3.5 Behavioural Biases

To make a good investment decision we require appropriate use of mental and financial resources for processing the available information. But some time human beings take quick and easy decision on the basis of some rule of thumb and deviation from rationality concept. This kind of decision are known as biases. Pompian in (2002) through his book behavioural finance and investor type classifies behavioural biases to two category.

Figure 3.2

Classification of behavioural biases



Source: Compiled by researcher

Type of Behavioural biases :- (A) Cognitive Bias ,(B) Emotional Bias

3.5.1 Emotional Bias: This biases deal with the way one feel. These biases emerge from a person's emotions, impulsive feeling and mood and might cause them to make illogical decisions. Its very difficult to identify these biases because human beings are always affected with one or another emotional biases. This bias includes, overconfidence biases, loss aversion biases, regret aversion biases, herd biases, optimism biases, endowment biases etc

3.5.1.1.Herd biases: It is the tendency of investors to mimic the actions of a group of other investors. (rationally or irrationally) without paying much care to the information. When an under uncertainty situation occurs investors irrationally follow

the behaviour of others to feel safe in the stock market and make a short cut to make fast investment decisions when they are on herd, they purchase winning stocks and sell losing ones. Lakshman et al. (2013) examines the market wide herding in Indian stock market and found that the institutional investors herding behaviour affect volatility and market behaviour.

Herd biases among the investors is the reason for massive errors and bubbles in the market. Prime example of herd instinct is the dotcom bubbles in the late 1990 and early 2000. Herd behaviour is the most influencing biases that make massive impact in stock market. Herding may be occurred in two types rational and irrational. Under rational method, investors look others analysis and information irrationally instead of following their own beliefs, common sense or judgment. Irrational herding mainly done to protect reputational concerns of an Investor. This type of herding occurs when investors discard their own analysis and follow the crowd.

Type of herding – Herding mainly classified in to two:

- Intentional herding: - Under intentional herding investors just imitate the actions of others.
- Spurious herding: -When investors group face similar information, they make similar choice.

Reason for herding: -Staying in a group may reduce the criticism and evaluation by others, moving in a group, give lots of investment information, social pressure of conformity etc.

Implications for Investors

- Suffer to bear huge transaction cost .
- Face difficulty to enter into new any security.

3.5.1.2 Overconfidence bias

It is a most powerful and wide spread psychological bias among the investors. Investors with overconfidence bias believe that their entire success in the stock market

is due to their own skill and knowledge. Investors with overconfidence bias overreact to their own ability to evaluate the stock and heavily depends on private signals while ignoring public signals. Overconfident investors never become nervous or anxious or not waiting for others suggestions. Overconfident investors, overestimate their level of knowledge. They usually underestimate the risk in their decisions and exaggerate their ability to manage situations and also under react to new useful information. Overconfidence leads to grater trading volume in financial market. High trading volume and poor portfolio management increase trading volume and cost also. Overconfidence can be classified into two predictive overconfidence and certainty overconfidence.

Implication for investors

- Too much faith in our own estimation causes us to underestimate the range of probability that actually exists.
- Inexperienced investors are more confident in the market.
- Some overconfident investors may not diversify their portfolios.
- They ignore the downside risk of their investment.
- Ready to take too much risk while taking investment decisions
- Overconfident investors made excessive trading which lead to a poor return on their investment.

3.5.1.3 Loss aversion biases:- Loss aversion is a behavioural phenomenon in the decision-making of individuals under risk and uncertainty. It is the tendency of investors to avoid loss strongly as compared to gains. The loss aversion theory is extracted from the prospect theory of Tversky and Daniel Kahneman. Research studies reveal that when people compare loss and gain, they find that losing is more unpleasant than gain. Kahneman and Tversky (1992) found that losses can be twice as powerful as gains. Investors behave irrationally in the stock market because they are afraid of losing money. Extreme risk aversion brought on by loss aversion can have a negative impact on a person's lifestyle and lead to the endowment effect and status quo bias..

Implication for investors

- Investor, overreaction to loss, leading to panic selling and further losses.
- Loss averted investors give too much emphasis on a single investment which leads to poor diversification.
- Holding winning stocks for too long creates lower return during long run period.
- Long term ownership of declining stock by investors due to their loss aversion.
- It prevents investors from taking risk that could lead to losses in the future.

3.5.2 Cognitive Biases:- These biases are a result of human thought process. Under these biases investors take decisions based on rule of thumb and some time may take wrong decisions. These biases affect the way a person sees the world around him. These biases lead a person to take poor decisions, illogical interpretation of information and bad judgment etc. These biases are classified into two (a) Belief Persistence biases: -It is a tendency to hold one's previously held or recently collected beliefs irrationally. These biases include representativeness bias, cognitive dissonance bias, illusion control biases, confirmation bias etc. (b) Information processing biases: -Here investors interpret information either illogically or irrationally while taking major financial decisions. This bias includes mental counting biases, anchoring biases, availability biases, self-attribute biases.

3.5.2.1 Anchoring biases

Anchoring is a cognitive bias. Investors have a tendency to base their decision on the first piece of information they learn (Tversky and Kahneman 1981). So, it is an irrational bias towards an arbitrary benchmark figure. When future return is unknown investors usually begin with some benchmark or default value for trading this is simply known as an anchoring. Anchoring biases are mainly two types internal anchors and external anchors. Reference points based on our own beliefs, experiences, or contextual clues are known as internal anchors. Reference points suggested by others are known as external anchors. Investors base their investment decision on

some initial reference point when faced with an uncertain situation and unable to find logical conclusion

The important factors influencing anchoring are (a)Mood of investors (b)Experience (c)Personality traits (d) Cognitive ability of investors etc.

Implication for investors

- Before making a sell decision, investors search for 52-week highs.
- Investors wait for the 52-week low to decide whether to sell.
- When investors discover that the stock they are purchasing costs more than what their peers did, they become more concerned.
- Investors forecast the market near the current market level.
- Investors made predictions based on a predetermined base level.
- Anchoring bias can lead investors to overlook opposing views or trust incorrect information.

3.5.2.2 Cognitive dissonance biases

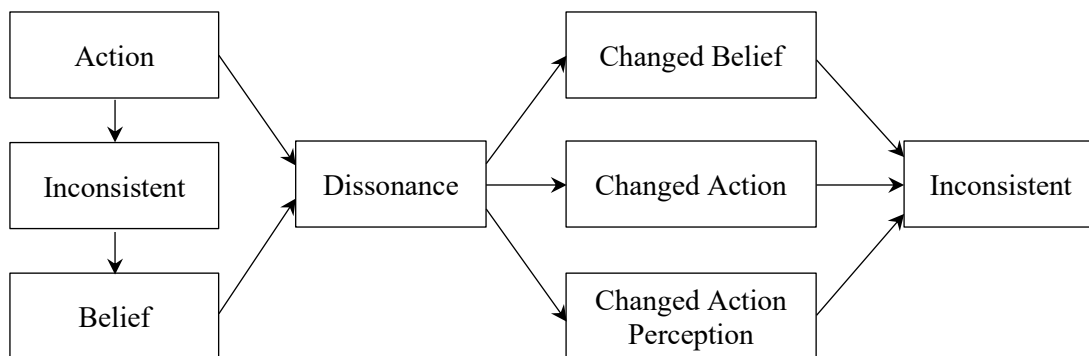
In 1972 Daniel Kahneman and Amos Tversky introduced this concept. According to him Individuals' decisions are heavily influenced by heuristics. Heuristics are mental shortcuts that help people to solve problems when they are conflicting viewpoints . Cognitive dissonance is a mental process in which individuals experience discomfort when they face new facts and situations that are contradictory to their existing knowledge, beliefs, prejudices, expectations, and preconceived ideas. While experiencing such a situation, individuals reject new information that contradicts their beliefs. Investors always want to believe that their investment decisions are good, but in a contradictory situation, defensive mechanisms in their mind compel them to alter their decision, but it is difficult to do so.

According to cognitive dissonance theory, individuals want to be consistent in their values and beliefs. Individuals need to act to change their inconsistent thought patterns

when their behaviour and attitude are inconsistent. When making investment decisions, investors may use shortcuts as a result of two or more conflicting ideas or beliefs. Investors should try to overcome these biases; otherwise, they may miss out on good investment opportunities.

Figure 3.3

Model of cognitive dissonance



Source: Cognitive Dissonance Theory (Pappas, 2016)

Cognitive dissonance may occur due to (1) selective perception (2) selective decision making. In selective perception investors make more importance to selected things and avoid other things so they miss core or vital information. This type of dissonance is known as selective dissonance. When a person is serious about his decision, he is ready to take that decision even if it has high economic cost. The cognitive dissonance biases can be avoid by using following ways (1) modifying belief (2) modifying action (3) modifying perception for relevant action. Some important signs of dissonance biases are :-Feeling uncomfortable before taking a decision, trying to justify or rationalize a decision they made, feeling regrets about the decision already taken, experiencing regret about something made in the past, taking decision due to social pressure or a fear of missing out (FOMO).

Implication for investors

- Investors affected by cognitive dissonance biases always keep on holding losing securities so that they are not in conflict with their previous investment decisions.
- Investors are unable to revise their portfolio.

- They ignore the most recent information regarding their investment, which may later lead to a loss.
- Investors underestimate new, updated information.
- Investors are incapable of learning lessons from their mistakes.
- Cognitively dissonant investors are likewise more likely to exhibit herd mentality. This is due to the fact that these investors do not pay attention to information when it is initially presented in short pieces that are conflicting.

3.5.2.3 Representativeness bias

Representativeness biases occur when investors perceive new knowledge as a repetition of previous experience. So the investor categorizes new information on the basis of previous experience. Representative make individual believe that the recent trends are repetitive in nature.

Implication for Investors

- Investors, try to generate pattern about recent investment data.
- Investors sufferer from good company and good stock syndrome.
- Investors often invest in those stocks that have high abnormal returns in near past.
- Giving more weight age to past performance of the stock for future decision making.

3.5.2.4 Availability bias

Availability biases or availability heuristics explain how our brain makes decisions based on two types of information, such as recent memory and vivid memory. Things that happened recently and happened again will come to mind quickly and easily. Because of large number of stocks on the stock market, investors rely on readily available information when choosing investment such as buying and selling stocks. Due to the time consumption and search costs sometimes motivate investors to search

for readily available information when making invest decisions. When we face a situation to take immediate decision, availability heuristics help as to quickly arrive a conclusion. An individual estimates the probability that an event will occur based upon how easily the information will come to his mind. It is a shortcut that allows you to easily connect ideas or choice based on immediate or vivid examples. When an incident happens more frequently, the likelihood of recalled, unusual or extreme incidents are inclined to remember easily, recent incidents are remembered more readily than those happen in the past. Negative incidents remembered more easily.

Important source of availability biases are: -

- Retrievability: - Information getting easily may remember more easily.
- Resonance: -The more closely a situation resembles the individuals own situation the individual is more biased.
- Categorization: -People collect information from the source as they think it is suitable source .

Implication for investors

- Investors those who effected with availability bias are invest more in companies that they frequently hear about.
- Availability bias makes investors more likely to overreact to the market.
- Availability bias explains how an investor's beliefs excessively influence their experience

3.6 Personality of investors

Each person is unique in this world, this uniqueness is determined by his/her personal factors. One's personality can be identified by analysing his/her attributes, perception, decision making style etc. According to parse (1991) Personality is the pattern of characteristics, thought, feelings and behaviours that distinguish one person from another and that persist over the time and situation. It is the sum of biological based

learned behaviour which forms a the person's unique response to all the environment stimuli (Rycleman 1982). So it is the sum of a set of distinction personal characteristic including one's own emotions, motives, values, thoughts and designative competencies. It is the dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, motivations, and behaviours in various situations” (Ryckman, 2008). Investors’ personality play an important role in determining their behavior (Sadi et al., 2011; Charles and Kasilingam, 2014a; Zaidi and Tauni, 2012). Hence the decision taken by the investor depends on the personality of the individual (Durand et al., 2008; Durand, Newby, Peggs)

3.6.1 PERSONALITY THEORIES

There are a lot of different theories that explain how a person develops. Different schools of thought in psychology may influence these personality theories. The important personality theories are:

Figur 3.4

Personality Theories



Source: <https://businessjargons.com/theories-of-personality>.

3.6.1.1 Psychoanalytical Theory :

This theory introduced Sigmund Freud he gives emphasis on the influence of unconscious mind on personality. According to Freud, id, Ego and Superego are the three important basis of human personality. He also mentions how unconscious mind and ones childhood experiences effect personality. Sigmund Freud’s psychosexual

stage theory, Carl Jung theory, Erik Eriksson stage of psychological development etc are the important psycho dynamic theories of personalities.

3.6.1.2 Socio psychological theory :-

According to the social cognitive theory of personality, the relationship between an individual and their environment shape and determine their personal development, This perspective is known as reciprocal interactionism. Personal connection with others and nature world produce experience that organise self-identification in relation to social context .

3.6.1.3 Trait theory

In 1936, psychologist Gordon Allport introduced this model and he categorized human traits into three levels: Cardinal traits, these are traits that dominate an individual's whole life, often to the point that the person becomes known specifically for these traits. Central Traits: These are the general characteristics that form the basic foundations of personality. These are the traits that are sometimes related to attitudes or preferences. The important proponents of traits model was Raymond Cattell (factor model) Hans Eysenck (three factor theory) and gold berg and McCrae and Costa.

3.6.1.4 Behavioural Theory

Behavioural theories suggest that personality is the result of interaction between the individual and the environment. Behavioural studies are observable and measurable. Important behavioural theories are B F Skinners- Classical conditioning theory, Albert Bandura's- Social cognitive theory and self-efficiency theory, Humanist theories include Carl Rogers and Abraham Maslow's (Need hierarchy theory)

3.6.1.5 Humanist theory

This theory emphasizes the important of individual experience in formation of personality. Abraham Maslow and Carl Rogers are the proponents of the humanistic theory. Humanistic theory gives more importance to the self-actualisation concept. The theory says that the need for self-actualization leads to personal growth.

3.6.2 Types of Personality Tests

There are mainly two types of personality tests.

- Objective test: usually conducted with pen, pencil, and paper with a questionnaire.
- Projective test. This test provides people with an arbitrary and open test item. This allows the subject to project themselves onto the blank screens that are the test items themselves.

(A) Myers Brigg Type Indicator

The MBTI measures personality along four bipolar scales: introversion versus extroversion; Sensitivity versus -Intuition's; Thinking versus Feeling; Judging versus Perceiving. 1940's . Isabel Briggs Myers developed this model.

(B) Eysenck Personality Questionnaire

The Hans Eysenck questionnaire measured personality traits along three dimensions: introversion, extraversion, N (neuroticism), and P (psychoticism). This EPQ model was developed from the MMQ and Mannsely Personality Inventory (MPI).

(C) Minnesota Multiphase Personality :-In 1930's starke R. Hath and J C MC kindly introduce this model.

d) Cattell's 16 personality factor system

Raymond Cattell was a well-known British psychologist who made major contributions to personality theory. He develops the 16FP, or 16 personality continuum, which is a theory of personality that suggests most of our personalities fall along a continuum of 16 common traits. Cattell (1965) disagreed with Eysenck's view that personality can be understood by looking at only two or three dimensions of behaviour. Instead, he argued that it was necessary to look at a much larger number of traits in order to get a complete picture of someone's personality.

3.6.3 Big-Five personality traits :-Nowadays the most well Recognised theory of personality is Big five model. This model was created in 1992 by T jr Costa and R R

Mccare. According to the theory there are five dimension of personality such as openness, conscientiousness, extroversion, agreeableness and neuroticism.

3.6.3.1 OPENNESS

Openness to experience simply means one's willingness to engage in intellectual activities. People who are high on these attributes are willing to try new things, creative, focused on taking new things, and always connected to abstract concepts, whereas people those with low level of these attribute exhibit the following features: dislike changes, do not enjoy new things, resist new ideas, and dislike abstract concepts.

Implications for investors: Investors with openness personality traits are highly overconfident and ready to take more risk and have a preference for long term investing opportunities

3.6.3.2 CONSCIENTIOUSNESS. People with high score on conscientiousness traits are self-disciplined, hardworking, always strive for achievement, try to finish important works in the right way, and prepare a time schedule for every task. People with a low score on these personality traits dislike structure and schedules, are procrastinating, fail to complete assignments, and exhibit impulsive and careless behaviour.

Implications for investors:

- Investors of this personality type are overconfident by nature.
- Investors with this trait cautiously sold the winning stocks in advance.

3.6.3.3. EXTRAVERTS: Persons with high levels of extraversion are enthusiastic and very much like to interact with others; they are sociable, talkative, enjoy meeting new people, etc. Persons with a low score on extraversion dislike being the centre of attention, are reflective in nature, and are fatigued from socialising too much.

Implications for investors

- Investors with this personality type are risk-averse by nature.
- They are wish to holding on to losing stocks with the hope of renewal.
- Investors with personality types are posed with positive emotions and are to be overconfident.
- Life satisfaction was positively linked to extraversion.

3.6.3.4 AGREEABLENESS: Agreeable individuals are generous, trustworthy, and altruistic. Those people who are high in agreeableness are trustworthy, altruistic, and optimistic. They desired to get along with others. People with low agreeableness personality traits are suspicious and uncooperative and take little interest in others.

Implications for investors

- Susceptible to overconfidence bias.
- Shows herd behaviour

3.6.3.5 NEUROTICISM:- Neuroticism refers to a chronic level of emotional instability and is prone to psychological distress. People with high neuroticism are less predictable, have poor management of their emotions, and are anxious, unhappy prone to negative emotions, and pessimistic in nature.

Implications for investors

- Investors with this personality tend to be nervous, anxious, emotionally unstable, and less confident in nature.
- A neurotic person sometimes shows a herd mentality.
- Individuals with this personality trait usually avoid short-term investing.

3.7 EMOTIONAL INTELLIGENCE

The capacity to recognise, understand, express, regulate, assess, and make use of emotions in order to interact and connect with people in a positive and productive way is known as emotional intelligence.

Salovey and Mayer (1990) define emotional intelligence as the capacity to recognise and successfully utilise one's own and other people's feelings and emotions in one's activities.

Reuven Baron (1996) defines emotion as a collection of social and emotional competencies and talents that support success and enable a person to deal with pressures from their surroundings.

Peter Salovey and John Mayer (2002) define emotional intelligence as the capacity to access and recognise emotions, comprehend emotions, manage emotions, and foster both intellectual and emotional development.

3.7.1 Components of Emotional Intelligence

3.7.1.1. Self-awareness: The capacity to comprehend one's feelings. It requires self-assurance and truthful self-evaluation.

3.7.1.2 Managing Emotions: This is the capacity to restrain one's own feelings and impatience while maintaining an optimistic outlook in any circumstance. It involves reliability, diligence, trust worthiness and initiative.

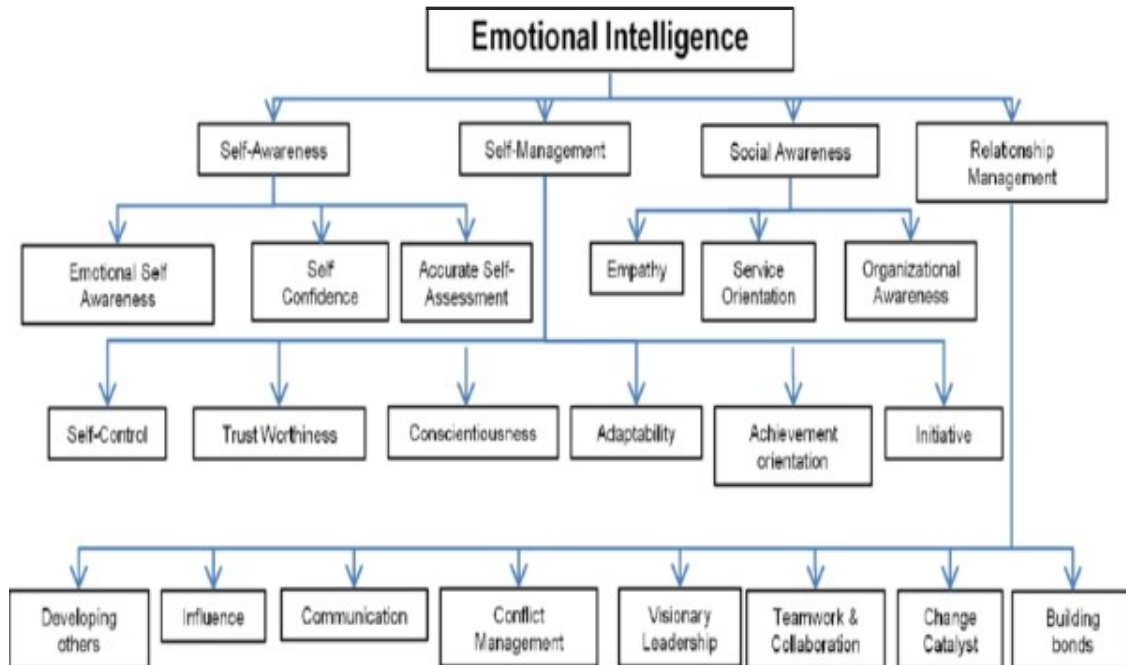
3.7.1.3 Motivation: This is the ability to establish personal objectives and put out significant effort to attain them.

3.7.1.4 Empathy: Empathy is the ability to perceive another person's feelings. It entails being sensitive to others' feelings and assisting them in achieving their goals.

3.7.1.5 Social skills: - Collaborating with others in a group is a social skill. It entails working together to find solutions to issues and getting along with everyone in all circumstances. Social skills are very important for one's personal and professional success. It involves important factors such as empathy, social orientation, conflict management, building bonds, collaboration, and teamwork.

Figure 3.5

The Hierarchical Model of emotional intelligence by Daniel Goleman (1995, 1998)



Source: The Hierarchical Model Developed by Daniel Goleman (1995, 1998)

3.8 Investment decision

Investment decision-making involves selecting the best alternative from a variety of investment avenues. This choice was made after carefully weighing all the available options. . The most complicated and difficult job for investors is decision-making .Each investor is unique in this world due to demographics, socioeconomic background, level of education and ethnicity factors. Investors always make investment decisions by collecting all available information. They are rational maximisers, but emotions and mental mistakes sometimes lead them to various behavioural biases. Personality, emotional intelligence, etc. also affect one's investment decisions. The quality of the investment decisions that are made has a positive impact on investment performance.

3.9 Investment performances

Investment performance is determined on the basis of how much the return-on-investment increases over a period of time. By analysing it, we can measure the

percentage change in the investment value over a period of time. Investors get their money in the form of dividends, regular income, or capital appreciation at the end. The investment performance of a portfolio is also calculated in qualitative terms. To measure the growth of investor returns, in the present study, the researcher examines the level of satisfaction of investors with their investment and satisfaction with their actual return.

3.10 Conclusions

The study of behavioural bias is closely linked to an individual's investment choice and influences their decision-making process. For an investor the risk and return connected with their investment options are vital. In order to prevent poor investment decision-making, it is equally crucial to understand various behavioural biases that influence their investment decision-making process before moving forward with their decision. An individual's personality and emotional factors also play an important role in making financial decisions. Therefore, to examine whether there is any relationship between personality traits, emotional intelligence factors, and various cognitive and emotional behavioural biases among equity investors in India, In the Indian context, studying investor psychology is of special interest because India is a rapidly growing economy with a highly diverse population of retail investors.

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Chapter 4

Research Methodology

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4.1 INTRODUCTION

Research methodology explains the procedures for identifying, collecting, and analyzing data in order to solve the research problem. It also states the various methods and limitations of the study. Following are the methodologies used in the present study:

4.2 Research methodology

Research methodology explains how a researcher systematically designs a study to ensure valid and reliable results that address the research aims, objectives, and research questions.

4.2.1 Research Design

The present study is framed as descriptive and analytical in nature. The study describes how the personality traits, emotional intelligence, and various behavioral biases of investors affect their investment performance. The study is also analytical in nature; it developed hypotheses for testing the relationship between variables and by using various statistical tools, the researcher analyzed the primary data. The methodology used in this research work is explained below .

4.2.2 Sources of Data

Both Primary and secondary data are used for the study . The sources list are given below:

4.2.2.1 Secondary Data: The secondary data for the study was collected from books, journals, articles, periodicals, study reports, journal of finance, research Dissertations, Journal of behavioural finance , websites of NSE, BSE and RBI websites, etc.

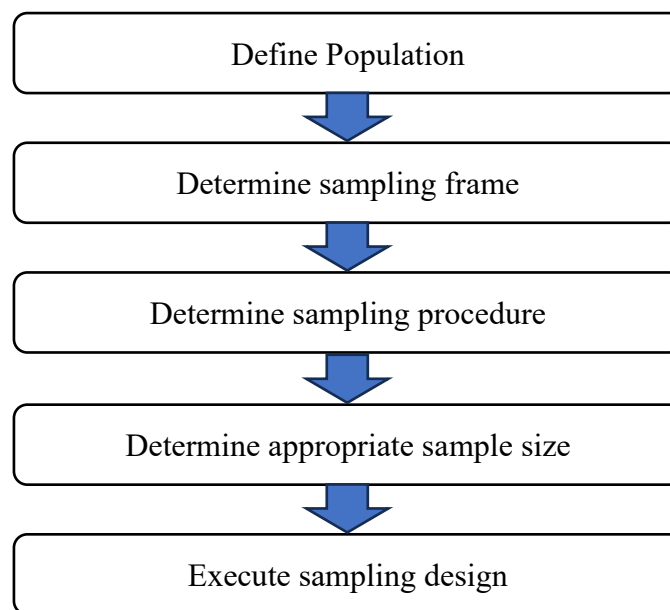
4.2.2.2 Primary Data:- The primary data collected from equity investors in Kerala.

4.2.3 Sample Design

A sample design is a plan for drawing a sample from a given population. It refers to the procedure the researcher would use while choosing the sampling method. The sample design process includes the following steps:

Figure 4.1

Sample Design



Source: Compiled by the Researcher

4.2.3.1 Population of the study: The total population of the study consists of all equity shareholders who have a demat account. Official data on equity investors is not available. So the researcher framed a population frame with the help of registered stock brokers at SEBI in Kerala. Famous stock brokers such as Geojit JRG, Motilal, Oswal, etc. are sought to list out the population. A comprehensive list of stockbrokers is framed in six districts in Kerala.

4.2.3.2 Sample Unit: Individual equity investors consist of the sample respondents.

4.2.3.3 Sample frame: With the help of leading stock broking firms in six selected districts in Kerala, the researcher frames the population for sample selection.

4.2.3.4 Sampling Technique

Stage I

The whole of Kerala state is divided into three regions: south, north, and central. On the basis of historical, geographical, and cultural similarities, the districts are usually grouped into South Kerala: Thiruvananthapuram, Kollam, Alappuzha, Pathanamthitta, and Kottayam; Central Kerala: Palakkad, Thrissur, Ernakulam, and Idukki; and North Kerala: Kasaragod, Kannur, Wayanad, Malappuram, and Kozhikode. Two districts from each region were selected. In the south region, Kottayam and Trivandrum were selected at random using the lottery method of simple random sampling under the probability random sampling method. Based on the same procedure, the researcher selected Thrissur and Ernakulam from the central region. Malappuram and Kozhikode were selected from the northern region.

Stage II

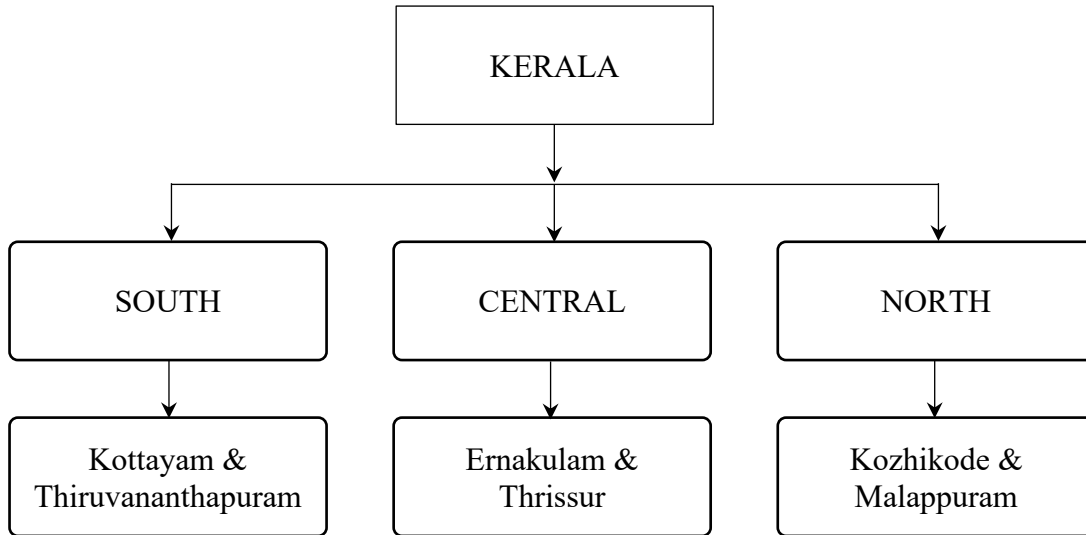
From the selected district, the researcher collected a list of registered stockbrokers. From this, 10% of stock brokers were selected as a sampling unit using the random number method of simple random sampling under the probability sampling technique.

Stage III

From the list of stock brokers selected for the study, the researcher collect the list of investors who had taken demat accounts through the brokers for the last 5 years, and the researcher randomly collected data from the list using the simple random sampling method under probability random sampling techniques. A total of 416 samples were collected from this list based on the sampling size determination in the pilot study using a scientific formula. Total sample size is 416 and is divided proportionally among the district.

Figure 4.2

Selection of sample respondents



Source: Compiled by the researcher

Table 4.1

Selection of Sample Respondents

Region	District	Selected district	
Southern District	Thiruvananthapuram Kollam, Alappuzha, Kottayam Pathanamthitta	Thiruvananthapuram	69
		Kottayam	69
Central District	Palakkad Thrissur Ernakulam Idukki	Thrissur	70
		Ernakulam	69
Northern District	Kasaragod. Kannur Wayanad Kozhikode Malappuram,	Kozhikode	69
		Malappuram	70
Total 14		6	416

4.2.3.5 Determination of sample size

Determination of sample size: There is no official list of data on the number of equity investors and their geographical distribution. Hence, the sample size of investors is calculated by using the Krejcie and Morgan formula. Based on the table created by Kerjcie and Morgan, 384 samples are sufficient for a population of up to 1000,000. The population of Kerala is 3.46 crore, and only less than 1% of the citizens invest in equity shares. So only 3,46,000 individuals purchase equity shares. Therefore, 400 samples are more than sufficient. The researcher distributed 450 questionnaires. But only 416 were correctly filled out by the respondents. After removing the unfilled questionnaire, we take 416 as the sample size. The following formula, created by Kerjcie and Morgan in 1970, is used to verify it: The study applies the formula used in situations where the population is infinite.

$$S = Z_2 \times \frac{P(1-P)}{M^2}$$

S = required sample size (when the population is unknown).

Z = Z score.

P = population proportion.

M = margin of error.

Z = score is determined on the basis of confidence level.

The probability that the parameter value falls within a given range of values is known as the confidence level. Here, the researcher considers a 95% confidence level, and the Z score is 1.96. The population proportion in this study is assumed to be 50%, i.e., 0.5. The margin of error is a small amount that allows for inaccuracies while calculating the result. The margin of error is set at five percent, or 0.05.

$$S = (1.96)^2 * 0.5 (1-0.5) / (.05)^2 = 3.8416*0.25/0.0025 = 384.16$$

4.2.3.6 Pre-testing and pilot study: To ensure the correctness of the survey instrument before the final survey, the researcher conducted a pre-test to identify the strengths and weaknesses of the research instrument. For example, wording the order of questions, format, etc. and collecting advice from language experts and

academicians, the researcher incorporated all the major changes into the research instrument.

The questionnaire was pilot tested by using 60 respondents with the help of a simple random sampling method. The result of the pilot study was evaluated using the Cronbach's alpha method for each item, which shows the acceptance of the level of internal consistency.

4.3 Tools/ Instruments for Data Collection

A questionnaire was prepared with the help of academicians and experts in the field of behavioral finance. The questionnaire includes questions related to the socio-economic background of investors, personality, emotional intelligence, behavioral biases, risk tolerance, investment performance, and reinvestment decisions.

4.4 Test of Validity

Validity testing means testing whether the instrument is able to measure what it intends to measure. The three forms of validity testing are: 1) content validity; and 2) construct validity. (3) Face validity

(1) Content validity: To measure the validity of the questionnaire, the instrument was first given to three research scholars, and their remarks about the questionnaire were obtained. Next, the three professors who were experts in the fields of statistics, management, and commerce were requested to examine the instrument, and their suggestions were recorded. These suggestions were given due consideration, and the variables included in the questionnaire were added, deleted, and suitably modified. Thus, the validity of the questionnaire content was confirmed based on the opinions and suggestions of the subject experts, and some changes were made to make the questionnaire clearer, more understandable, and more purposeful. The changes were incorporated after extensive consultations with subject experts and by exercising due diligence to ensure that the objectives of the research would be effectively and efficiently accomplished by the data collection through administering the instrument.

(2) Construct Validity: Construct validity denotes the extent to which the constructs used for the study actually measure the intended performance in comparison to the intended measurement standards (Herl et al., 1996). It includes the following:

- Clustering the constructs using exploratory factor analysis
- Convergent validity is ensured through confirmatory factor analysis.
- Composite reliability
- Divergent or discriminatory validity

4.5 Test of Reliability Analysis

Reliability means the ability of a measuring instrument to give accurate and consistent results. It measures the relative absence of errors in a measuring instrument, as the smaller the error, the more stable and accurate the data (DCVon *et al.*, 2007). Internal consistency is one of the methods to measure scale reliability by assessing the commonality of a set of items that measure a particular construct, and here the researcher used Cronbach's alpha to test the internal consistency in measuring the scale. If the Cronbach's alpha is greater than 0.7, the scale is reliable.

Table 4.2

Internal consistency analysis of the twenty constructs by Cronbach's alpha for sample size 60 based on pilot study

SI No.	Constructs	Cronbach's Alpha	No. of Items	No. of Items deleted
Behavioural biases				
1	Overconfidence bias	0.810	4	Nil
2	Herd bias	0.878	4	Nil
3	Anchoring biases	0.776	3	Nil
4	Availability bias	0.898	4	Nil
5	Representativeness bias	0.834	3	Nil
6	Cognitive dissonance bias	0.801	3	Nil
7	Loss aversion bias	0.802	4	Nil

SI No.	Constructs	Cronbach's Alpha	No. of Items	No. of Items deleted
Investment personality traits				
8	Agreeableness	0.874	4	Nil
9	Extraversion	0.834	4	Nil
10	Neurotism	0.777	3	Nil
11	Conscientiousness	0.756	4	Nil
12	Openness	0.834	4	Nil
Emotional intelligence				
13	Empathy	0.863	3	Nil
14	Motivating oneself	0.898	3	Nil
15	Self-management	0.803	4	Nil
16	Self-awareness	0.845	3	Nil
17	Social skill	0.877	4	Nil
Other individual constructs				
18	Risk tolerance	0.887	4	Nil
19	Investment performance	0.834	6	Nil
20	Reinvestment decisions	0.812	4	Nil

Reliability coefficients of 0.70 or higher are normally considered as good (Nunnally, 1967). As long as all of the constructions meet the suggested threshold level (>0.080), the data can be regarded as reliable in terms of internal consistency. As a result, the questionnaire can be used to collect data on an extensive scale without any additions or deletions

4.6 Normality of data (distributional assumption)

Normality test is conducted to examine whether the data selected for the study is normally distributed or not. The Kolmogorov-Smirnov test was used to determine whether or not the data have a normal distribution (Sarstedt & Mooi, 2014).

Table 4.3

Shows the normality of data by Kolmogorov-Smirnov test

Sl. No.	Constructs	Kolmogorov-Smirnov test	
		Statistic	Sig.
Behavioural biases			
1	Overconfidence bias	0.018	0.200*
2	Herd bias	0.015	0.200*
3	Anchoring biases	0.017	0.200*
4	Availability bias	0.016	0.200*
5	Representativeness bias	0.018	0.200*
6	Cognitive dissonance bias	0.015	0.200*
7	Loss aversion bias	0.017	0.200*
Investment personality traits			
8	Agreeableness	0.016	0.200*
9	Extraversion	0.019	0.200*
10	Neurotism	0.021	0.200*
11	Conscientiousness	0.023	0.200*
12	Openness	0.016	0.200*
Emotional intelligence			
13	Empathy	0.019	0.200*
14	Motivating oneself	0.013	0.200*
15	Self management	0.016	0.200*
16	Self awareness	0.018	0.200*
17	Social skill	0.019	0.200*
Other individual constructs			
18	Risk tolerance	0.016	0.200*
19	Investment performance	0.018	0.200*
20	Reinvestment decisions	0.019	0.200*

** This is a lower bound of the true significance*

According to the data in the table, the Kolmogorov-Smirnov test P values are higher than the preset significance level of 0.05. This implies that the data pertaining to each construct has characteristics consistent with a normal distribution.

4.7 VALIDITY MEASUREMENT OF SCALES -BEHAVIOURAL BIASES

Validity and reliability assessment by co-variance based confirmatory factor analysis

Confirmatory factor analysis is the form of factor analysis utilized most frequently in the field of statistics for social research. It is used to determine the extent to which a researcher's conception of what a construct entails and how that construct is measured coincide. CFA, or Confirmatory Factor Analysis, is a statistical technique that examines how well the measured variables represent a variety of "constructs." This is a multivariate technique. The methodologies employed by exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are extremely similar. In exploratory factor analysis (EFA), on the other hand, the data are merely examined to determine the number of factors required to explain the data. Each of the measured variables is linked to each of the latent variables in exploratory factor analysis. In contrast, when conducting confirmatory factor analysis (CFA), researchers can determine how many factors must be present in the data, as well as which measurable variable is associated with which concealed variable. With the aid of confirmatory factor analysis, or CFA for short, it is possible to demonstrate whether the measurement hypothesis is true or false.

4.7.1 Criteria for evaluating the CB-CFA models' final reliability and validity

When conducting a confirmatory factor analysis, it is essential to determine both construct validity (convergent and discriminant validity) and parameter reliability (Composite reliability). CFA is a statistical technique used to confirm that a set of observed variables has the predicted factor structure. CFA permits the researcher to examine the relationship between observed variables and their latent constructs (Suhr, 2009). The criteria must demonstrate sufficient validity and dependability. These instruments are used for measuring model evaluation:

(1) Composite reliability

(2) Construct validity (a) Convergent and Discriminant Validity

Composite Reliability (CR) is a measure of the reliability of the entire construct. The value range is from 0 to 1. According to Hair et al. (2010), composite reliability values larger than 0.70 are regarded as satisfactory. Values less than 0.6 indicate internal inconsistency. Two methods comprise construct validity: convergent validity and discriminant validity.

(a) Convergent Validity - the components of a concept that function as indicators or observable variables must converge or share a significant proportion of variance. According to Hair et al., convergent validity concerns indicate that the observable variables do not adequately characterize the latent component. (2010). Malhotra et al. (2001) state that AVE is a more conservative measure of convergent validity than CR. The average variance extracted (AVE) was used to demonstrate convergent validity in this study. Using normalized factor loadings, the AVE value is calculated. The AVE threshold value is greater than 0.5. Item factor loadings are an additional indication of convergent validity (Hair et al., 2010). The standardized factor loading threshold value for demonstrating item validity is greater than 0.5 in this study. (2010) Convergence is adequate if both the standardized factor loadings and AVE values are greater than 0.5.

b) A concept with high **discriminant validity** captures things that no other concept does. If the discriminant validity test does not produce the desired results, it suggests that the variables are highly correlated with variables from other constructs, indicating that the latent variable is best described by factors other than its own observable variables. The researcher evaluated discriminant validity using the conservative Fornell and Larcker (1981) criteria. The latent variable's correlations are compared to the square root of AVE. Each construct's AVE should have a square root larger than the relationship of its latent variable to other constructs. This method can be used to establish discriminant validity.

The present study use Confirmatory Factor Analysis to validate the measurement scale. The CFA is measured by using the model fit indices, reliability and validity test.

Figure 4.3

Second order CFA for measuring the extent of behavioural biases possessed by the stock market investors in Kerala

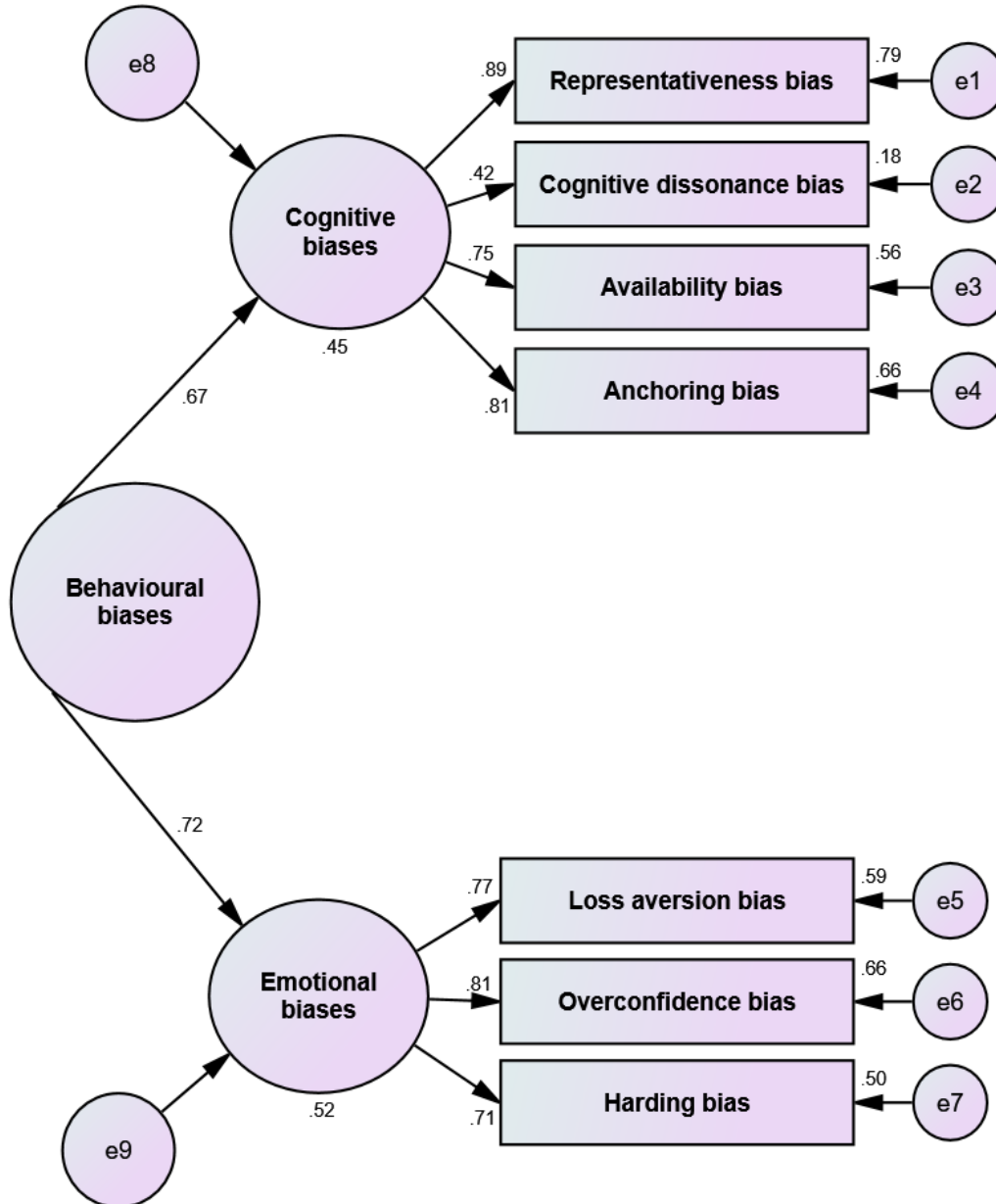


Table 4.4

Fit indices for testing the Second Order Confirmatory Factor Analysis

Attributes	CMIN/DF	P-Value	GFI	AGFI	CFI	RMSEA
Study model	2.799	0.000	0.992	0.980	0.995	0.036
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08
Literature support	Hair et al., (1998)	Barrett (2007)	Hair et al. (2006)	Hair et al. (2006)	Hu and Bentler (1999)	Hair et al. (2006)

The Chi-Square to degrees of freedom ratio should be less than 5 for a good model. The result is 2.799, which is comfortably within the recommended maximum. The RMSEA score is 0.036, far below the criterion of 0.08. The GFI, AGFI, and CFI scores are more than 0.9, with 1.0 representing exact match. Therefore, the second-order CFA model fits well.

Table 4.5

Path values of Second Order Confirmatory Factor Analysis of cognitive and emotional biases

Path relationships		Standardized co-efficient (Beta values)	P value	Ranks based of Beta Values
Behavioral biases	← Cognitive biases	0.67	<0.001**	II
Behavioral biases	← Emotional biases	0.72	<0.001**	I

** indicates significant at 1% level

According to the standardized beta coefficient, emotional biases (0.72) of investors are the most prominent form of behavioral bias exhibited by investors in the stock market in Kerala followed by cognitive bias (0.67).

Table 4.6

Path values of Second Order Confirmatory Factor Analysis of cognitive bias factors.

Path relationships of cognitive bias factors		Standardized co-efficient (Beta values)	P value	Ranks based of Beta Values
Cognitive bias	← Representativeness bias	0.89	<0.001**	I
Cognitive bias	← Cognitive dissonance bias	0.42	<0.001**	IV
Cognitive bias	← Availability bias	0.75	<0.001**	III
Cognitive bias	← Anchoring bias	0.81	<0.001**	II

*** indicate significant at 1% level*

From the above information provided, the standardized beta coefficients for different cognitive biases exhibited by stock market investors in Kerala are as follows:

1. Representativeness Bias: 0.89
2. Anchoring Bias: 0.81
3. Availability Bias: 0.75
4. Cognitive Dissonance Bias: 0.42

Based on standardized beta co- efficient, representativeness bias (0.89) is the major cognitive bias exhibited by the stock market investors in Kerala followed anchoring bias (0.81), availability bias (0.75), and cognitive dissonance bias (0.42).

Based on the provided coefficients, it appears that the influence of representativeness bias is the most noteworthy, followed by anchoring bias, availability bias, and cognitive dissonance bias. Investors in Kerala exhibit a higher inclination towards making decisions influenced by representativeness bias in comparison to the other biases that have been discussed.

Table 4.7*Path values of Second Order Confirmatory Factor Analysis of emotional bias factors*

Path relationships of emotional bias factors		Standardized coefficient (Beta values)	P value	Ranks based of Beta Values
Emotional bias	← Loss aversion bias	0.77	<0.001**	II
Emotional bias	← Overconfidence bias	0.81	<0.001**	I
Emotional bias	← Herd bias	0.71	<0.001**	III

** indicate significant at 1% level

The standardized beta coefficients for different emotional biases exhibited by stock market investors in Kerala are as follows:

1. Loss aversion Bias: 0.77
2. Overconfidence Bias: 0.81
3. Herd Bias: 0.71

According to the standardized beta coefficients, it can be observed that the main emotional bias demonstrated by stock market investors in Kerala is overconfidence bias, with a coefficient of 0.81. This is followed by loss aversion bias, which has a coefficient of 0.77, and herd bias, which has a coefficient of 0.71.

Based on the provided coefficients, it can be seen that overconfidence bias has the greatest influence, followed by loss aversion bias and herd bias. Compared to other emotional biases that have been discussed, investors in Kerala exhibit a greater tendency to make decisions influenced by overconfidence bias.

Confirmatory Factor Analysis for the factors of behavioral bias

Figure 4.4

Confirmatory Factor Analysis for the factors of behavioral bias

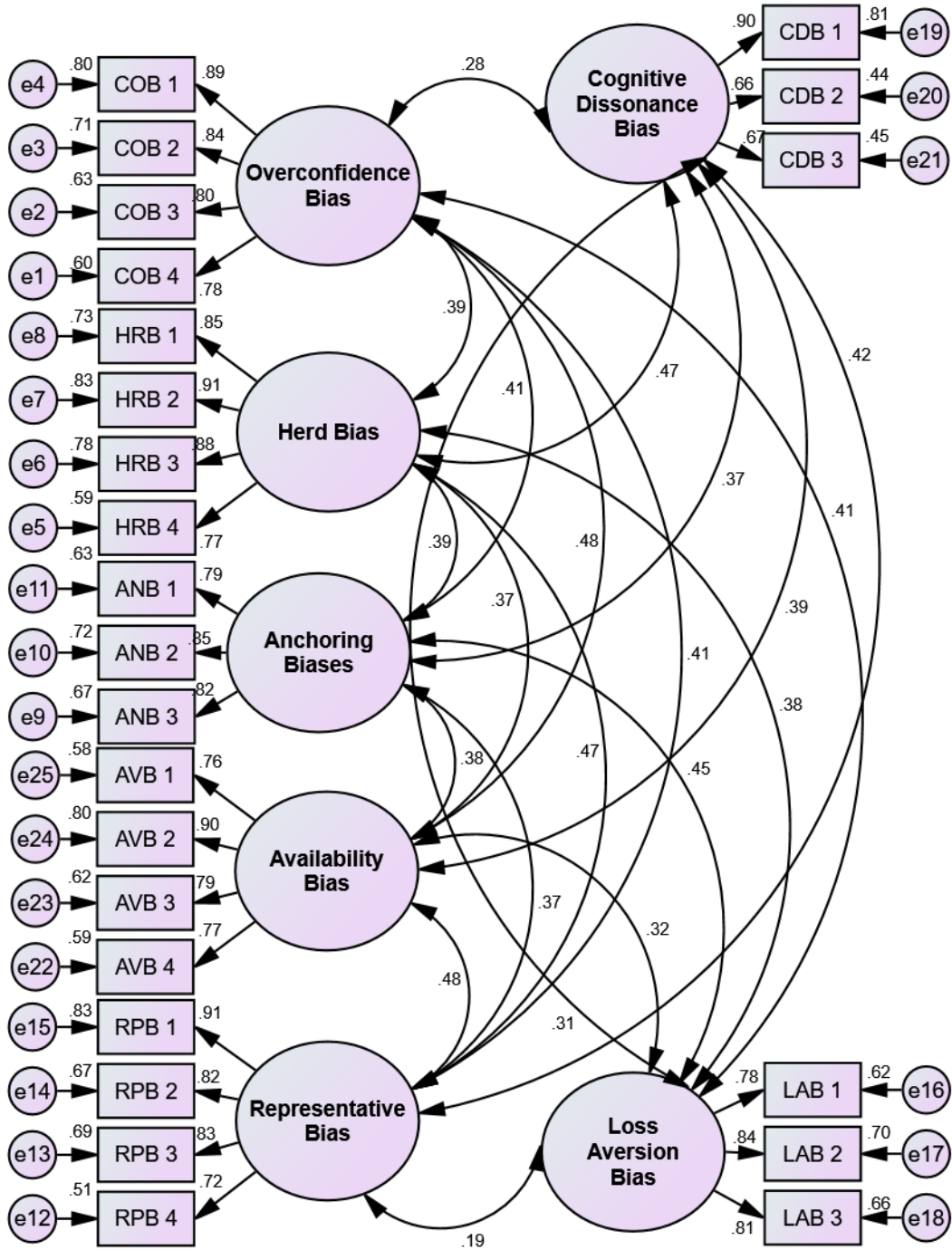


Table 4.8*Model fit indices for Confirmatory Factor of behavioural biases*

Attributes	CMIN/DF	P-Value	GFI	AGFI	CFI	RMSEA
Study model	4.109	0.000	0.961	0.978	0.988	0.051
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08
Literature support	Hair et al., (1998)	Barrett (2007)	Hair et al. (2006)	Hair et al. (2006)	Hu and Bentler (1999)	Hair et al. (2006)

For a model to be deemed valid, it is necessary for the ratio of Chi-Square to degrees of freedom to be below 5. The obtained value in this instance is 4.109, which exhibits a significant deviation from the recommended upper threshold. The RMSEA value of 0.051 falls significantly below the acceptable threshold of 0.08 for the RMSEA metric. Moreover, the three fit indices, namely the GFI, AGFI, and CFI, exhibit values exceeding 0.9, where a value of 1.0 denotes a perfect fit. Consequently, the model exhibits a high degree of fit and possesses potential for utilisation in subsequent inquiries.

Table 4.9*Final Reliability and Validity of CFA Model for factors of behavioral bias*

Factors of behavioral bias	Item code	Factor loading	Cronbach's Alpha Final	AVE	Composite Reliability
Overconfidence bias (COB)	COB 1	0.89**	0.89	0.69	0.90
	COB 2	0.84**			
	COB 3	0.80**			
	COB 4	0.78**			
Herd bias (HRB)	HRB 1	0.85**	0.91	0.73	0.92
	HRB 2	0.91**			
	HRB 3	0.88**			
	HRB 4	0.77**			

Factors of behavioral bias	Item code	Factor loading	Cronbach's Alpha Final	AVE	Composite Reliability
Anchoring bias (ANB)	ANB 1	0.79**	0.86	0.67	0.860
	ANB 2	0.85**			
	ANB 3	0.82**			
Availability bias (AVB)	AVB 1	0.76**	0.87	0.65	0.88
	AVB 2	0.90**			
	AVB 3	0.79**			
	AVB 4	0.77**			
Representativeness bias (RPB)	RPB 1	0.91**	0.89	0.68	0.89
	RPB 2	0.82**			
	RPB 3	0.83**			
	RPB 4	0.72**			
Loss aversion bias (LAB)	LAB 1	0.78**	0.85	0.66	0.85
	LAB 2	0.84**			
	LAB 3	0.81**			
Cognitive dissonance bias (CDB)	CDB 1	0.90**	0.78	0.57	0.79
	CDB 2	0.66**			
	CDB 3	0.67**			

** indicates significant at 1% level

The table presented above indicates that the factor loadings surpass the threshold value of 0.5, thereby indicating the item validity of the constructs. After conducting extensive data collection, the investigator employed the Cronbach's Alpha reliability assessment. The obtained Cronbach's Alpha values surpass the threshold of 0.8, which suggests that the variables utilised for assessing the construct exhibit high levels of reliability. All constructs have Composite Reliability ratings exceeding 0.8, which suggests a high degree of internal consistency reliability. Moreover, the values of Average Variance Extracted (AVE) exceed the suggested threshold of >0.5. It can be inferred that all constructs demonstrate significant levels of convergence. Given that all the parameters fall within the requisite range, the data is deemed appropriate for subsequent analysis and model development.

Table 4.10

Discriminant Validity among the factors of behavioral biases

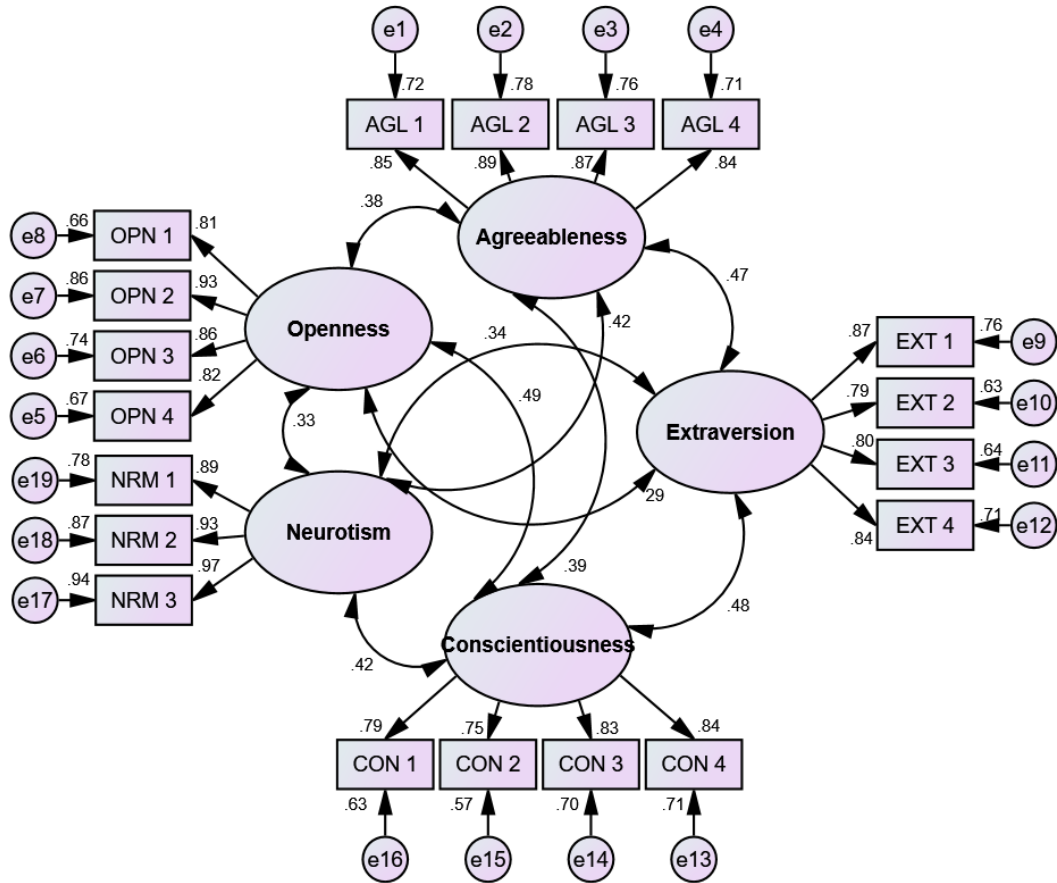
Constructs	COB	HRB	ANB	AVB	RPB	LAB	CDB
COB	(0.83)						
HRB	0.39	(0.85)					
ANB	0.41	0.39	(0.82)				
AVB	0.48	0.37	0.38	(0.81)			
RPB	0.41	0.47	0.37	0.48	(0.82)		
LAB	0.41	0.38	0.45	0.32	0.19	(0.81)	
CDB	0.28	0.47	0.37	0.39	0.42	0.31	(0.75)

The aforementioned table presents the correlations among latent constructs alongside the square root of AVE values. To establish the absence of a correlation between the different constructs, the square root of the AVE scores (indicated by numbers in brackets) must exceed the values of the correlation of the latent variables. The table presented above provides clear evidence of the absence of a relationship between the constructs. Furthermore, it serves to confirm the uniqueness of the factors associated with behavioural bias

4.8 VALIDATION OF MEASUREMENT SCALE – PERSONALITY TRAITS

Figure 4.5

CFA of Personality Traits constructs



Confirmatory Factor Analysis – Personality Traits constructs

Figure 4.6

CFA of risk tolerance construct

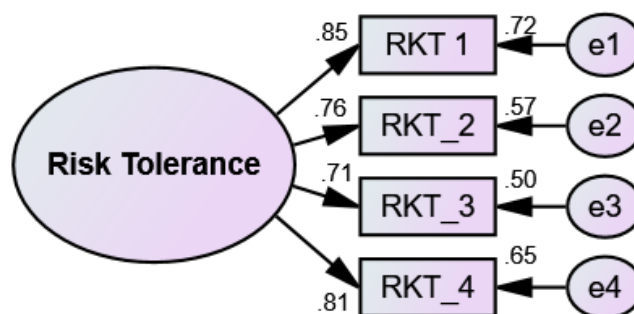


Table 4.11

Fit indices for the CFA model measuring personality traits and risk tolerance constructs

Attributes	CMIN/DF	P-Value	GFI	AGFI	CFI	RMSEA
Personality traits CFA model	3.584	0.000	0.981	0.948	0.989	0.051
Risk tolerance CFA model	1.087	0.597	0.999	0.997	0.999	0.012
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08
Literature support	Hair et al., (1998)	Barrett (2007)	Hair et al. (2006)	Hair et al. (2006)	Hu and Bentler (1999)	Hair et al. (2006)

The above table provided displays the two CFA model fit indices that CFAs of personality traits and risk tolerance utilized for evaluating the overall fit of the model. In order for a model to be considered acceptable, the ratio of the value of Chi-Square to the degrees of freedom should be below 5. In this instance, the value

obtained is 3.584, which falls comfortably within the recommended upper limit. The root mean square error of approximation (RMSEA) score is 0.051, which falls significantly below the commonly accepted threshold score of 0.08. In addition, it is worth noting that the GFI, AGFI, and CFI values surpass the threshold of 0.9, with 1.0 being indicative of a perfect fit. Hence, it can be claimed that both CFA models exhibit an appropriate level of fit.

Table 4.12

Final Reliability and Validity of CFA Model for personality traits and risk tolerance constructs

Personality traits and risk tolerance constructs	Item code	Factor loading	Cronbach's Alpha Final	AVE	Composite Reliability
Openness (OPN)	OPN 1	0.81**	0.92	0.73	0.92
	OPN 2	0.93**			
	OPN 3	0.86**			
	OPN 4	0.82**			
Neurotism (NRM)	NRM 1	0.89**	0.95	0.86	0.95
	NRM 2	0.93**			
	NRM 3	0.97**			
Conscientiousness (CON)	CON 1	0.79**	0.87	0.65	0.88
	CON 2	0.75**			
	CON 3	0.83**			
	CON 4	0.84**			
Extraversion (EXT)	EXT 1	0.87**	0.89	0.69	0.90
	EXT 2	0.79**			
	EXT 3	0.80**			
	EXT 4	0.84**			
Agreeableness (AGL)	AGL 1	0.85**	0.91	0.74	0.92
	AGL 2	0.89**			
	AGL 3	0.87**			
	AGL 4	0.84**			

Personality traits and risk tolerance constructs	Item code	Factor loading	Cronbach's Alpha Final	AVE	Composite Reliability
Risk Tolerance (RKT)	RKT 1	0.85**	0.85	0.61	0.86
	RKT 2	0.76**			
	RKT 3	0.71**			
	RKT 4	0.81**			

** denotes significant at 1% level.

The table presented above indicates that all factor loadings surpass the specified limit of 0.5, thereby indicating the item validity of the constructs. After conducting a comprehensive data collection process, the researcher employed the Cronbach's Alpha reliability test. The obtained Cronbach's Alpha coefficients exceed the threshold of 0.9, suggesting a high level of reliability for the variables employed in assessing the construct. All constructs exhibit Composite Reliability ratings exceeding 0.9, signifying a high degree of internal consistency reliability. In addition, it is worth noting that the Average Variance Extracted (AVE) values surpass the recommended threshold of >0.5. This finding suggests that there is a notable degree of convergence among all constructs. Given that all of the parameters fall within the specified range, the data can be deemed appropriate for subsequent analysis and the development of a model.

Table 4.13

Discriminant Validity among the personality traits constructs

Constructs	OPN	NRM	CON	EXT	AGL
OPN	(0.85)				
NRM	0.33	(0.93)			
CON	0.49	0.42	(0.81)		
EXT	0.29	0.34	0.48	(0.83)	
AGL	0.38	0.42	0.39	0.47	(0.86)

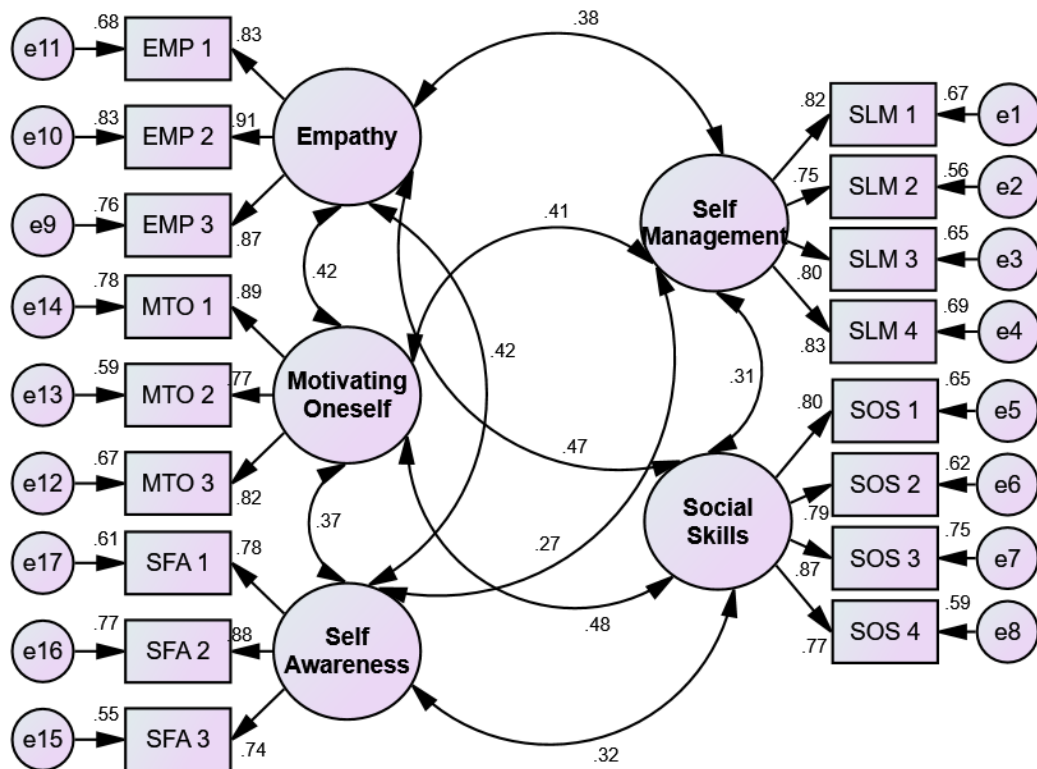
The table above displays the square root of AVE (Average Variance Extracted) values, as well as the correlations between latent constructs. In order to demonstrate

the absence of any association, the values within parentheses are representative of the square root of the Average Variance Extracted (AVE) scores. These values must exceed the latent variable correlation values among the different constructs. The aforementioned table provides clear evidence that there is no discernible correlation among the constructs of personality traits.

4.9 VALIDITY MEASUREMENT OF SCALES -EMOTIONAL INTELLIGENCE

Figure 4.7

Confirmatory Factor Analysis of factors of emotional intelligence



Confirmatory Factor Analysis of factors of emotional intelligence

Table 4.14

Model fit indices for CFA model of factors of emotional intelligence

Attributes	CMIN/DF	P-Value	GFI	AGFI	CFI	RMSEA
Study model	3.102	0.000	0.971	0.939	0.988	0.047
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08
Literature support	Hair et al., (1998)	Barrett (2007)	Hair et al. (2006)	Hair et al. (2006)	Hu and Bentler (1999)	Hair et al. (2006)

The table above incorporates CFA model fit indices for the purpose of evaluating the adequacy of the model fit. The Chi-Square to degrees of freedom ratio of a model ought to fall below 3.102, a threshold that is evidently compliant with the prescribed limit. The root mean square error of approximation (RMSEA) value of 0.047 falls significantly below the established threshold of 0.08. The Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), and Comparative Fit Index (CFI) exhibit values greater than 0.9, with 1.0 indicating a perfect fit. Consequently, the aforementioned model can be given to further examination.

Table 4.15

Final Reliability and Validity of CFA model of factors of emotional intelligence

Factors of emotional intelligence	Item code	Factor loading	Cronbach's Alpha Final	AVE	Composite Reliability
Empathy (EMP)	EMP 1	0.83**	0.89	0.76	0.90
	EMP 2	0.91**			
	EMP 3	0.87**			
Motivating oneself (MTO)	MTO 1	0.89**	0.85	0.68	0.87
	MTO 2	0.77**			
	MTO 3	0.82**			

Factors of emotional intelligence	Item code	Factor loading	Cronbach's Alpha Final	AVE	Composite Reliability
Self awareness (SFA)	SFA 1	0.78**	0.83	0.64	0.84
	SFA 2	0.88**			
	SFA 3	0.74**			
Social skills (SOS)	SOS 1	0.80**	0.87	0.65	0.88
	SOS 2	0.79**			
	SOS 3	0.87**			
	SOS 4	0.77**			
Self management (SLM)	SLM 1	0.82**	0.88	0.64	0.88
	SLM 2	0.75**			
	SLM 3	0.80**			
	SLM 4	0.83**			

** denotes significant at 1% level

The above table displays that all factor loadings surpass the recommended threshold of 0.5, indicating item validity. Upon data collection, the researcher employed Cronbach's Alpha to assess the reliability of the measurements. Cronbach's Alpha values exceeding 0.8 indicate a high degree of reliability for the variables comprising the construct. The internal consistency reliability of all constructs is robust, as evidenced by the Composite Reliability metric exceeding 0.8. The AVE readings surpass the proposed threshold of >0.5. Thus, it is possible to anticipate a significant level of convergence. Upon fulfilment of all necessary requirements, the data is now deemed suitable for analysis and modelling.

Table 4.16

Discriminant Validity among the factors of emotional intelligence

Constructs	EMP	MTO	SFA	SOS	SLM
EMP	(0.87)				
MTO	0.42	(0.82)			
SFA	0.42	0.37	(0.80)		
SOS	0.47	0.48	0.32	(0.81)	
SLM	0.38	0.41	0.27	0.31	(0.80)

The table presented above indicates that there exists no correlation between the constructs, and it is evident that the emotional intelligence factors exhibit discriminant validity.

4.10 VALIDITY MEASUREMENT OF SCALES – INVESTMENT PERFORMANCE AND REINVESTMENT DECISIONS

Figure 4.8

Confirmatory Factor Analysis of factors of investment performance and reinvestment behaviour

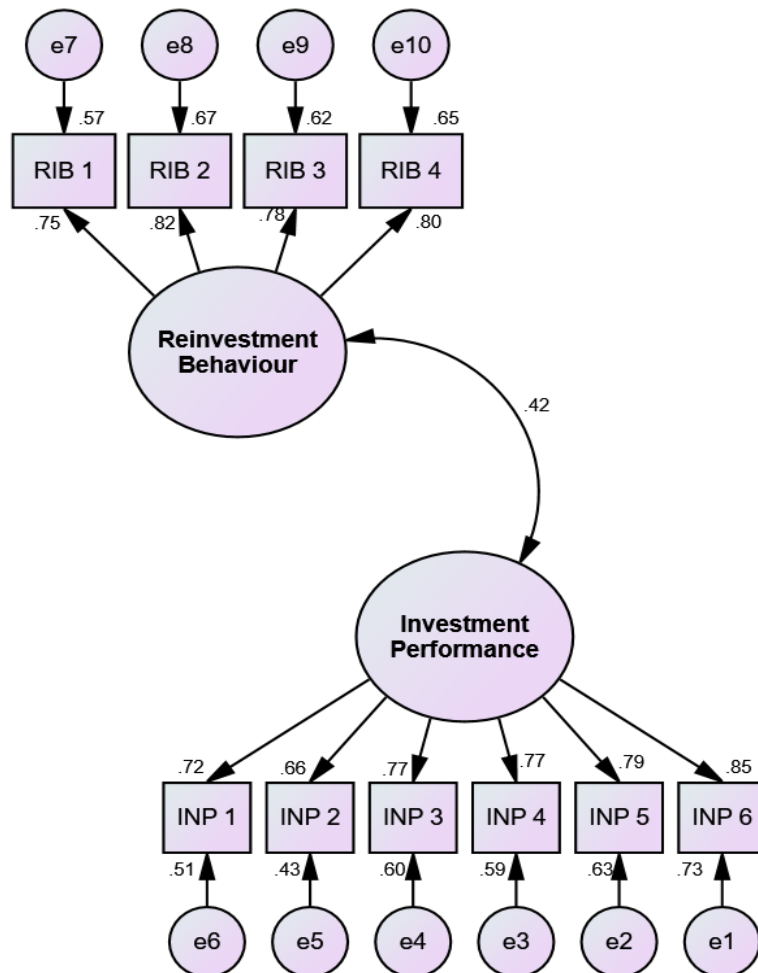


Table 4.17

Model fit indices for CFA model of factors of investment performance and reinvestment behaviour

Attributes	CMIN/DF	P-Value	GFI	AGFI	CFI	RMSEA
Study model	1.654	0.087	0.991	0.979	0.998	0.019
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08
Literature support	Hair et al., (1998)	Barrett (2007)	Hair et al. (2006)	Hair et al. (2006)	Hu and Bentler (1999)	Hair et al. (2006)

CFA model fit indices are shown in the table above. A model's Chi-Square statistic should be less than 1.654, which is within the acceptable range. RMSEA is 0.019, far below the minimum allowable threshold of 0.08. GFI, AGFI, and CFI all exceed 0.9, but 1.0 denotes an exact fit.

Table 4.18

Final Reliability and Validity of CFA model of factors of investment performance and reinvestment behaviors

Factors of investment performance and reinvestment behaviors	Item code	Factor loading	Cronbach's Alpha Final	AVE	Composite Reliability
Reinvestment Behaviour (RIB)	RIB 1	0.75**	0.88	0.63	0.87
	RIB 2	0.82**			
	RIB 3	0.78**			
	RIB 4	0.80**			
Investment Performance (INP)	INP 1	0.72**	0.89	0.58	0.89
	INP 2	0.66**			
	INP 3	0.77**			
	INP 4	0.77**			
	INP 5	0.79**			
	INP 6	0.85**			

** denotes significant at 1% level

The fact that all factor loadings exceed the recommended cut-off level of 0.5, as shown in the table below, is evidence that the items are valid. Cronbach's Alpha values exceed 0.80, the construct's variables are determined to be reliable. The fact that the Composite Reliability is greater than 0.8 indicates that each of the constructs has a substantial degree of internal consistency reliability. The AVE readings have exceeded the proposed threshold, which was >0.5. One can therefore anticipate a high degree of convergence. The data can now be analysed and modelled because all prerequisite conditions have been satisfied.

Table 4.19

Discriminant Validity between the factors of investment performance and reinvestment behaviour

Constructs	RIB	INP
RIB	(0.76)	
INP	0.42	(0.76)

According to the data depicted in the table above, there is no relationship between the two constructs and the discriminant validity of the elements associated with investment performance and reinvestment behaviour.

4.11 Statistical tools and software packages used for data analysis

1. To investigate the personality traits and emotional intelligence of the stock market investors in Kerala, mean, standard deviation, one sample t test, independent t test and ANOVA with Tukey HSD's post hoc analysis are used with the help of IBM SPSS 27 software package.
2. To examine the levels of behavioural biases demonstrated by stock market investors in Kerala, Quartile settings, Percentage Analysis and Chi-Square test for goodness of fit and Chi-square test for association are employed with the help of IBM SPSS 27 software package.

3. To explore the relationship between emotional intelligence and investment performance using behavioural biases as mediating factors, Co-variance Based Confirmatory Factor Analysis (CB-CFA), Structural Equation Modelling (SEM) techniques and bootstrapping techniques for testing mediation effect were adopted with the help of IBM SPSS AMOS graphics 21 software package.
4. *To extract the mediating role of risk tolerance in the relationship between investment personality traits and the investment performance of stock market investors in Kerala*, Co-variance Based Confirmatory Factor Analysis (CB-CFA), Structural Equation Modelling (SEM) techniques and bootstrapping techniques for testing mediation effect were adopted with the help of IBM SPSS AMOS graphics 21 software package.
5. To analyse the levels and causal connection of investment performance and reinvestment decisions of stock market investors in Kerala, Quartile settings, Percentage Analysis, Chi-Square test for goodness of fit and Chi-square test for association and Structural Equation Modelling techniques are employed with the help of IBM SPSS 27 and IBM SPSS AMOS 21 software packages.

Detailed explanation of various statistical tools used in the study :-

1. Mean and standard deviation

The most widely used measure of central tendency is the mean. It is the average of all values in a distribution. The standard deviation measures how much the data deviates from the mean.

1. **One sample T test** :-A one-sample test is used to assess if the population mean significantly deviates from a given value or a value that has been hypothesized.
2. **One-way analysis of variance (ANOVA)**:-It is a statistical technique that helps to test the difference in the mean of three or more groups.
3. **The Chi-square test of association** :-This statistical method measures whether there is a statistically significant relationship between two variables. If there is a

difference between the expected frequency and the observed frequency, it concludes that there is a statistical relationship between the two variables.

4. **The Chi-square test of goodness of fit:** The Chi-square test of goodness of fit is used to measure whether sample data is representative of the entire population.
5. **Confirmatory factor analysis (CFA)** This statistical technique is used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct or factor. The main aim of this method is to test whether the data fits a hypothesized measurement model based on theory or previous research.
6. **Exploratory factor analysis (EFA):** Exploratory factor analysis is a statistical technique used to measure the relationship between observed and latent variables. It reduces the data into a manageable set of summary variables and explores the theoretical framework supporting the phenomena.
7. **Structural Equation Modelling** - The SEM model is a multivariate statistical analysis technique to analyses the structural relationship between measured variables and latent constructs. This technique combines multiple regression analysis with factor analysis.

4.12 Conclusion: - This chapter deals with research design and methodology used in the research work. The chapter also explains sample design, scale development and validation processes, and various statistical tools used for analysis.

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Chapter 5

Investment Personality Traits, Emotional Intelligence and Behavioral Biases of Equity Investors in Kerala

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5.1 INTRODUCTION

This chapter investigates the investment personality traits and emotional intelligence of Equity investors in Kerala, as well as the differences in these traits among the various socio-demographic and economic profiles of investors. This chapter also investigates the behavioural biases exhibited by investors, taking into consideration individuals with varying levels of investment personality traits. This study analyses the investment personality traits of people who invest in the stock market in Kerala. These traits, which are Openness, Extraversion, Conscientiousness, Neuroticism, and Agreeableness, were taken into consideration. The investors' capacity for empathy, self-motivation, self-management, self-awareness, and social skills are all considered to be components of their emotional intelligence. In order to carry out a comparative data analysis, the researcher taken into account a number of socio-demographic and economic parameters associated with the investors, as well as high and low levels of investment personality traits.

PART A

5.2 ANALYSIS BASED ON SOCIO-DEMOGRAPHIC FACTORS

5.2.1 SOCIO-DEMOGRAPHIC AND ECONOMIC PROFILE OF THE EQUITY INVESTORS IN KERALA.

Table 5.1

Details of the demographics and economic profile of the investors.

Variables	Category	No of Respondents	Percentage (%)
Gender	Male	380	91.3
	Female	36	8.7
	Total	416	100.0
Age	Up to 36 years	172	41.3
	36 to 45 years	156	37.5
	46 to 55 years	56	13.5
	Above 56	32	7.7
	Total	416	100
Educational qualification	Up to HSC	36	8.7
	Graduate	236	56.7
	Post Graduate	80	19.2
	Professional Degree	64	15.4
	Total	416	100
Area of residence	Rural	196	47.1
	Urban	220	52.9
	Total	416	100
Occupation	Business	114	27.4
	Salaried person	250	60.1
	Professional	40	9.6
	Retried	12	2.9
	Total	416	100.0
Annual income	Below Rs. 500000	142	34.1%
	500000 – 10,00000	152	36.5
	10,00001 to 15,00000	76	18.3
	1500000 and above	46	11.1
	Total	416	100

Variables	Category	No of Respondents	Percentage (%)
Experience in stock market trading	Less than one year	82	19.7
	1-3 years	136	32.7
	3-6 years.	108	26
	6-9 years.	52	12.5
	Above 9 years.	38	9.1
Marital status	Married	300	75
	Un married	116	25
	Total	416	100

Source: Primary Data

The table above depicts the socio-demographic and economic profile of the survey participants.

According to the statistics shown in the table above, 91.3 % of investors who participated in the research are male, while 8.7 % are female. Therefore, the majority of investors who took part in the survey are men. Though the state gives much importance to women's participation in most spheres of the economy, in the case of equity investment, women's participation is very low as compared to men.

Samples of investors who belong to all age categories were collected for the study. The above table shows that 41.3% (172) of the investors are under the age of 36 years. 37.5% (156) of respondents fall between the age groups of 36-45 years. The 46-55 age group of investors represents only 13.5% (56). Only 7.7% belong to the age category of above 56 years. The result of the study shows that young people invest more in the stock market.

The educational qualification of the respondents shows that 8.7% have educational qualification of up to HSC 236(56.7%) had undergraduate degrees, 19.2% had postgraduate degrees, and 15.4% had professional degree.

75% of the respondents are married, and 25% are unmarried. From this, it is inferred that the majority of the investors are married.

The table shows that 60.1% (250) of the investors belong to the salaried groups. 27.4% of them are businessmen; 9.6% of them are professionals; and only 2.9% are retired. Overall, the study reveals that the majority of investors fall into the fixed income category.

It is inferred from the survey that 34.1% of the respondents have an annual income below Rs. 500,000. 36.5% belong to the income level of 500,000–10,00,000, 18.3% belong to the income category of 10,00,001–15,00,000, and 11.1% of the respondents have income above 15,00,000. All this shows that the majority of the respondents are in the middle income group.

Experience-wise, the classification of the respondents shows that 19.7% have less than one year of experience in the stock market. 32.7% have an experience of 1-3 years, 26% have an experience of 3-6 years, 12.5% have an experience of 6-9 years, and only 9.1% have an experience of above 9 years. From this, it is inferred that the majority have low expertise in the stock market.

5.2.2 INVESTMENT BEHAVIOUR OF THE EQUITY INVESTORS IN KERALA.

Table 5.2

Details of the investment behaviour of equity investors in Kerala

Variables	Category	No of Respondents	Percentage (%)
Total amount invested in shares	Up to 50,000	74	17.8
	50,001 to 1,00,000	52	12.5
	1,00,001 to 2,00,000	82	19.7
	2,00,001 to 5,00,000	72	17.3
	5,00,001 to 10,00,000	56	13.5
	Above 10,00,000	80	19.2
	Total	416	100.0

Variables	Category	No of Respondents	Percentage (%)
Factors influencing investment decision	Technical analysis	72	17.3
	Fundamental analysis	152	36.53
	Media	24	5.8
	Past performance	40	9.61
	Self analysis	128	30.8
	Total	416	100
Holding period of securities	Less than 3 month	72	17.3
	3 to 6 months	52	12.5
	6 to 12 months	80	19.2
	Above 1 year	212	51.0
	Total	416	100.0
Frequency of trading	Many times in a day	32	7.7
	Daily	72	17.3
	Weekly	82	19.7
	Occasionally	158	38.0
	Rarely	44	10.6
	Never	28	6.7
	Total	416	100.
Hours spend on investment analysis	Less than an hour	16	3.8
	1 to 2 hours	20	4.8
	2 to 4 hours	128	30.8
	4 to 6 hours	148	35.6
	More than 6 hours	104	25.0
	Total	416	100.0

Source: Primary Data

From the table, it can be ascertained that 17.8% of investors have less than Rs 50,000 as their investment size. 12.5% of investors have an investment size between Rs50,000 and Rs1,000,000. 19.7% have an investment size between RS 1,00,001 and RS 2,00,000. 17.3% of the investors have an investment size of Rs 2,00,001 to Rs

5,00,000. 13.5% have an investment size of 5,00,001 to 10,00,000. Only 19.2% have a total investment in shares greater than RS 10,00000.

The study reveals that 17.3% of the respondents depends on Technical analysis 36.53% of them depends on fundamental analysis data before investing in the stock market.30.8% believes in self analysis and 24% depends on media .

From the survey, it can be interpreted that 17.3% of the respondents held securities for a period of 3 months and 12.5% of the investors held shares for a period of 3-6 months. 19.2% are holding shares for 6–12 months. More than half of the investors who participated in the survey (51%) held securities for more than one year.

While evaluating the trading frequency of the respondents, it was found that 38% of the investors occasionally purchase shares. 17.3% purchase shares daily; 19.7% purchase shares weekly. Only 7.7% purchase shares many times in a day.

From the survey, it can be inferred that 25% of the respondents spend more than 6 hours a day on investment analysis. 35.6% spend 4-6 hours on investment analysis. while 30.8% of them spend 2-4 hours. Only 3.8% of the respondents spent less than one hour searching for new information for updating investment information.

PART B

5.3 Objective I: To investigate the personality traits and emotional intelligence of the Equity investors in Kerala.

5.3.1 PERSONALITY TRAITS OF THE EQUITY INVESTORS IN KERALA

To achieve the research objective, various statistical methods were employed, including descriptive statistics such as the mean and standard deviation, as well as inferential analyses such as the one-sample t-test, independent t-test, and one-way analysis of variance with Tukey's HSD post hoc analysis.

The following five traits of the investors are considered as factors of investment personality traits of the Equity investors in Kerala.

1. *Agreeableness*
2. *Extraversion*
3. *Neurotism*
4. *Conscientiousness*
5. *Openness*

5.3.1.1 Extent of investment personality traits possessed by the Equity investors in Kerala

H1:1 The investment personality traits exhibited by Equity investors in Kerala are average.

Table 5.3

One sample t test for measuring the investment personality traits exhibited by Equity investors in Kerala

Factors of investment personality traits	Mean	Standard Deviation	Mean difference	T value	P Value	Rank based on mean
Agreeableness	3.73	0.80	0.73	18.50	<0.001**	II
Extraversion	3.57	0.72	0.57	16.13	<0.001**	IV
Neurotism	3.11	0.86	0.11	2.76	0.006	V
Conscientiousness	3.75	0.60	0.75	24.58	<0.001**	I
Openness	3.68	0.82	0.68	16.84	<0.001**	III

Source: Primary Data

*** denotes significant at 1% level*

Since the P value is less than 0.01, we have sufficient evidence to reject the null hypothesis at a significance level of 1% for all factors pertaining to the investment personality traits of Equity investors in Kerala. The data indicates that the investment personality traits exhibited by Equity investors in Kerala are not at an average level. This suggests that it has a chance to fall either below or above the mean level. The means of the investment personality traits exhibited by Equity investors in Kerala indicate that all scores surpass the mean value of 3. This suggests that Equity investors in Kerala demonstrate above-average levels of Agreeableness, Extraversion,

Neuroticism, Conscientiousness, and Openness personality traits when engaging in stock market investments. Based on the mean scores, it can be observed that investors typically exhibit higher levels of Conscientiousness (3.75) as an investment personality trait when they actively participate in investment decisions. This is followed by Agreeableness (3.73), Openness (3.68), Extraversion (3.57), and Neuroticism (3.11).

5.3.1.2 Investment personality traits possessed by the Equity investors in Kerala across their various socio-demographics and economic profile

H.0:2 There is no significant difference between various investment personality traits of Equity investors in Kerala and their gender.

Table 5.4

T test for significant difference between various investment personality traits of Equity investors in Kerala and their gender.

Factors of investment personality traits	Gender				T value	P value
	Male		Female			
	Mean	SD	Mean	SD		
Agreeableness	3.73	0.82	3.70	0.53	0.184	0.854 ^{NS}
Extraversion	3.56	0.74	3.73	0.53	-1.372	0.171 ^{NS}
Neuroticism	3.11	0.87	3.18	0.73	-0.495	0.621 ^{NS}
Conscientiousness	3.76	0.59	3.61	0.63	1.480	0.140 ^{NS}
Openness	3.72	0.83	3.26	0.56	3.259	<0.001 ^{**}

Source: Primary Data

Note: 1. ^{**} denotes significant at 1% level

2. ^{NS} denotes not significant

Because the P value is less than 0.01, the null hypothesis is rejected at the 1% significance level. As a result, there is a significant difference between openness of the Equity investors in Kerala and their gender. In other words, there is a gender wise difference exist among openness of the Equity investors in Kerala.

In the case of agreeableness, extraversion, neuroticism and conscientiousness the P value is greater than 0.05. Therefore, the null hypothesis is accepted. It indicates that there is no significant difference between the various investment personality traits of Equity investors in Kerala and their gender in terms of agreeableness, extraversion, neuroticism and conscientiousness. Male and female Equity investors are clearly equal in terms of agreeableness, extraversion, neuroticism and conscientiousness.

According to the mean score in terms of openness personality traits, male Equity investors exhibit greater openness than female investors. In other words, male investors appear to have a more open attitude when investing in the stock market than female.

H.0:3 There is no significant difference among various investment personality traits of Equity investors in Kerala and their age.

Table 5.5

ANOVA for significant difference among various investment personality traits of Equity investors in Kerala and their age.

Factors of investment personality traits	Age				F value	P value
	Up to 25	36 to 45	46 to 55	Above 55		
	Mean and SD	Mean and SD	Mean and SD	Mean and SD		
Agreeableness	3.77 (0.81)	3.62 (0.78)	4.13 (0.77)	3.28 (0.56)	9.573	<0.001**
Extraversion	3.40 (0.81)	3.64 (0.65)	3.76 (0.69)	3.82 (0.44)	6.175	<0.001**
Neuroticism	3.12 (0.83)	3.06 (0.88)	3.22 (0.98)	3.12 (0.71)	0.466	0.706 ^{NS}
Conscientiousness	3.72 (0.56)	3.78 (0.69)	3.69 (0.40)	3.83 (0.43)	0.595	0.619 ^{NS}
Openness	3.57 (0.87)	3.74 (0.81)	3.88 (0.66)	3.68 (0.72)	2.328	0.074 ^{NS}

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. ^{NS} denotes not significant

Considering the P value is less than 0.01 at the 1% level, the null hypothesis is rejected. It indicates that there is a significant difference among various investment personality traits of Equity investors in Kerala such as agreeableness and extraversion and their age. It demonstrates Equity investors of different ages differ in terms of their extraversion and agreeableness when making investments. It clearly says that Equity investors with different age category are not same in case of their various personality traits of investment that is agreeableness and extraversion.

In the case of neuroticism, conscientiousness and openness personality traits, the P value is greater than 0.05. So, it can be state that, there is no significant difference among various investment personality traits of Equity investors in Kerala that is neuroticism, conscientiousness and openness and their age.

Post-hoc test of ANOVA

Although the test results indicate the presence of a significant difference, it should be noted that this does not necessarily imply that each individual group is significantly different from all other groups. In order to determine the statistically significant differences between groups, a 'Post Hoc' test is conducted utilizing the 'Tukey HSD' method. The outcome is depicted in the following manner.

Table 5.6

Post Hoc Test for significant difference among various investment personality traits of Equity investors in Kerala and their age.

Factors of investment personality traits	Age (I)	Age (J)	Mean difference (I-J)	Std. error	P value
Agreeableness		36 to 45	0.150	0.086	0.303 ^{NS}
	Up to 25	46 to 55	-0.354	0.120	0.018*
		Above 55	0.497	0.150	0.006**
	36 to 45	46 to 55	-0.505	0.121	<0.001**
		Above 55	0.346	0.151	0.104 ^{NS}
	46 to 55	Above 55	0.852	0.173	<0.001**

Factors of investment personality traits	Age (I)	Age (J)	Mean difference (I-J)	Std. error	P value
Extraversion		36 to 45	-0.231	0.079	0.019*
	Up to 25	46 to 55	-0.357	0.110	0.007**
		Above 55	-0.418	0.137	0.014*
	36 to 45	46 to 55	-0.126	0.111	0.66 ^{NS}
		Above 55	-0.187	0.138	0.534 ^{NS}
	46 to 55	Above 55	-0.060	0.158	0.981 ^{NS}

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant 5% level

3. ^{NS} denotes not significant

Focusing on the Tukey HSD post hoc test, the following significant difference was discovered among various investment personality traits of Equity investors in Kerala and their age. In case of agreeableness, investors in the ages of up to 25 are significantly differed from those in the age group of 46 to 55 and above 55. Investors in the ages of 36 to 45 are differed significantly from those in the age category of 46 to 55. While, Equity investors in the age group of 46 to 55 are differed greatly from those in the ages of 46 to 55. In terms of extraversion, investors in the age group of up to 25 are differed significantly from those in the age category of 36 to 45, 46 to 55 and above 55.

The mean score indicates that stock investors between the ages of 46 to 55 are more agreeable when making investments than those between the ages of up to 25, 36 to 45, and over 55. When comparing investors between the ages of up to 25 and over 55, those up to 25 exhibit greater agreeableness with stock market investments. Compared to investors under the age of 25, investors in the 36 to 45 age range have higher extraversion levels while investing in stock market. When investing in the stock market, investors between the ages of 46 to 55 show higher levels of extraversion than investors under the age of 25, while investors over the age of 55 exhibit higher levels of extraversion than investors under the age of 25.

H.0:4 There is no significant difference among various investment personality traits of Equity investors in Kerala and their education.

Table 5.7

ANOVA for significant difference among various investment personality traits of Equity investors in Kerala and their education.

Factors of investment personality traits	Educational qualifications				F value	P value
	Up to HSC	Under graduate	Post graduate	Professional		
	Mean and SD	Mean and SD	Mean and SD	Mean and SD		
Agreeableness	3.52 (0.64)	3.70 (0.91)	3.81 (0.54)	3.84 (0.70)	1.592	0.191 ^{NS}
Extraversion	3.52 (0.70)	3.76 (0.62)	2.93 (0.72)	3.71 (0.66)	33.272	<0.001**
Neurotism	3.40 (0.47)	3.15 (0.88)	3.00 (0.67)	2.95 (1.10)	2.755	0.042*
Conscientiousness	3.79 (0.59)	3.78 (0.65)	3.71 (0.54)	3.66 (0.47)	0.872	0.455 ^{NS}
Openness	3.72 (0.63)	3.86 (0.65)	3.21 (1.01)	3.59 (0.94)	13.805	<0.001**

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant at 5% level

3. ^{NS} denotes not significant

Since the P value is less than 0.01, so the null hypothesis is refuted at 1% level of significance. It indicates that there is a significant difference among various investment personality traits of Equity investors in Kerala such as extraversion and openness and their education. It reveals that stock market traders with extraversion and openness personality traits are vary in terms of their age groups. It clearly says that Equity investors with different educational category are not same in case of their various personality traits of investment that is extraversion and openness.

In terms of neuroticism, the P value is less than 0.05, so the null hypothesis is rejected at 5% level of significance. It asserts that there is a significant difference among

neuroticism personality of Equity investors in Kerala and their education. That is Equity investors with various educational qualification are vary in terms of neuroticism personality traits. In the case of agreeableness and conscientiousness, the P value is greater than 0.05. So, it can be state that, there is no significant difference among various investment personality traits of Equity investors in Kerala such as agreeableness and conscientiousness and their varying education qualifications.

Post-hoc test of ANOVA

Table 5.8

Post Hoc Test for significant difference among various investment personality traits of Equity investors in Kerala and their education

Factors of investment personality traits	Age (I)	Age (J)	Mean difference (I-J)	Std. error	P value
Extraversion	Up to HSC	Under graduate	-0.237	0.117	0.183 ^{NS}
		Post graduate	0.596	0.131	<0.001**
		Professional	-0.190	0.136	0.503 ^{NS}
	Under graduate	Post graduate	0.833	0.084	<0.001**
		Professional	0.046	0.092	0.050 ^{NS}
		Post graduate	Professional	-0.787	0.110
Neurotism	Up to HSC	Under graduate	0.252	0.153	0.357 ^{NS}
		Post graduate	0.407	0.172	0.086 ^{NS}
		Professional	0.449	0.178	0.060 ^{NS}
	Under graduate	Post graduate	0.155	0.111	0.501 ^{NS}
		Professional	0.197	0.120	0.364 ^{NS}
		Post graduate	Professional	0.041	0.143
Openness	Up to HSC	Under graduate	-0.143	0.140	0.740 ^{NS}
		Post graduate	0.510	0.158	0.007**
		Professional	0.128	0.163	0.861 ^{NS}
	Under graduate	Post graduate	0.653	0.102	<0.001**
		Professional	0.271	0.110	0.070 ^{NS}
		Post graduate	Professional	-0.382	0.132

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant 5% level

3. ^{NS} denotes not significant

The present study examined the Tukey HSD post hoc test to identify significant differences in investment personality traits between Equity investors in Kerala and their level of education. In case of extraversion, investors with qualification of up to HSC are significantly differed from those who are qualified post-graduation. Investors who are under graduates are differed significantly from those who are post graduates. Similarly, Equity investors with qualification of post-graduation are differed greatly from those who are professionals.

In terms of openness personality traits, investors with qualification of up to HSC are significantly differed from those who are post graduates. Investors who are under graduates are differed greatly from those who are post graduates while, investors who qualified post -graduation are differed significantly from those who are professionals. In case of Neuroticism HSC qualified investors are significantly differ from professionally qualified investors. HSc qualified investors possessing high Neuroticism than investors with professionally qualified.

The mean score indicates that, Investors in the stock market with postgraduate degrees have more extraversion personality when investing than those with HSC-level and under graduates, while investors with professional degrees exhibit more extraversion personality than postgraduates. Investors with qualifications up to the HSC level have a more open personality towards stock market investment than those investors with postgraduate degrees. When investing in the stock market, investors with undergraduate degrees are more open-minded than those with post graduates. Similar to this, stock market participants who hold a professional degree exhibit greater investment openness than those who are post graduates.

5.3.2 EMOTIONAL INTELLIGENCE OF THE EQUITY INVESTORS IN KERALA

The following five factors are considered as determinants of emotional intelligence among investors in Kerala.

- (1) *Empathy*
- (2) *Motivating oneself*
- (3) *Self management*
- (4) *Self awareness*
- (5) *Social skill*

5.3.2.1 Extent of emotional intelligence possessed by the Equity investors in Kerala

H1:5 The emotional intelligence possessed by Equity investors in Kerala are average.

Table 5.9

One sample t test for measuring the emotional intelligence possessed by Equity investors in Kerala

Factors of emotional intelligence	Mean	Standard Deviation	Mean difference	T value	P Value	Rank based on mean score
Empathy	3.70	0.72	0.70	19.21	<0.001**	I
Motivating oneself	3.49	0.76	0.49	12.80	<0.001**	IV
Self management	3.45	0.69	0.45	13.39	<0.001**	V
Self awareness	3.68	0.71	0.68	19.40	<0.001**	II
Social skill	3.56	0.64	0.56	18.09	<0.001**	III

Source: Primary Data

** denotes significant at 1% level

Given that the P value is below 0.01, there exists substantial evidence to reject the null hypothesis at a significance level of 1% for all factors related to the emotional intelligence of Equity investors in Kerala. This implies that there is a possibility for it to differ from the mean level, either in a lower or higher direction. The data regarding the emotional intelligence levels of Equity investors in Kerala suggests that all scores exceed the average value of 3. This implies that individuals engaging in stock market investments in Kerala exhibit higher-than-average levels of empathy, self-motivation, self-management, self-awareness, and social skills. Based on the mean scores, it is evident that investors tend to demonstrate higher levels of Empathy (3.70) as a component of emotional intelligence when they are involved in investment decision-making. The subsequent factors in descending order of mean scores are Self-awareness (3.68), Social skill (3.56), Motivating oneself (3.49), and Self-management (3.45).

5.3.2.2 Emotional intelligence possessed by the Equity investors in Kerala across their various socio-demographics and economic profile

H.0:6 There is no significant difference between factors of emotional intelligence Equity investors in Kerala and their gender.

Table 5.10

T test for significant difference between factors of emotional intelligence Equity investors in Kerala and their gender.

Factors of emotional intelligence	Gender				T value	P value
	Male		Female			
	Mean	SD	Mean	SD		
Empathy	3.73	0.71	3.40	0.76	2.628	0.009**
Motivating oneself	3.53	0.77	3.14	0.50	2.897	0.004**
Self management	3.50	0.67	2.88	0.67	5.291	<0.001**
Self awareness	3.67	0.73	3.74	0.54	-0.492	0.623 ^{NS}
Social skill	3.61	0.60	3.11	0.81	4.588	<0.001**

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. ^{NS} denotes not significant

At the 1% significance level, the null hypothesis is rejected since the P value is less than 0.01. As a result, there is a significant difference between factors of emotional intelligence of Equity investors in Kerala such as empathy, motivating oneself, self-management and social skill and their gender. In other words, there is a gender wise difference exist among factors of emotional intelligence on investment of the Equity investors in Kerala regarding the emotional intelligence factors such as as empathy, motivating oneself, self-management and social skill.

In the case of self-awareness, the P value is greater than 0.05. Therefore, the null hypothesis is accepted. It indicates that there is no significant difference between self-awareness factor of emotional intelligence of Equity investors in Kerala and their gender. It means that male and female Equity investors are clearly equal in terms of self-awareness.

According to the mean score, male Equity investors having greater emotional intelligence factors such as empathy, self-motivation, self-management and social skills than female investors. Therefore, it can be specified that male Equity investors are more empathetic, self-motivated, and have greater self-awareness and social skills than female investors, allowing them to get useful insights and make better investment judgements.

H.0:7 There is no significant difference among factors of emotional intelligence of Equity investors in Kerala and their age.

Table 5.11

ANOVA for significant difference among factors of emotional intelligence of Equity investors in Kerala and their age

Factors of emotional intelligence	Age groups of the investors				F value	P value
	Up to 25	36 to 45	46 to 55	Above 55		
	Mean and SD	Mean and SD	Mean and SD	Mean and SD		
Empathy	3.67 (0.66)	3.60 (0.74)	4.51 (0.42)	3.38 (0.57)	20.29	<0.001**
Motivating oneself	3.34 (0.78)	3.48 (0.73)	4.18 (0.32)	3.55 (0.61)	13.18	<0.001**
Self management	3.30 (0.64)	3.60 (0.64)	3.63 (0.84)	3.21 (0.64)	8.22	<0.001**
Self awareness	3.66 (0.78)	3.59 (0.59)	3.79 (0.93)	4.00 (0.00)	3.35	0.019*
Social skill	3.49 (0.63)	3.41 (0.52)	4.22 (0.66)	3.56 (0.41)	27.63	<0.001**

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant at 5% level

At a 1% level of significance, the null hypothesis is disproved because the P value is less than 0.01. It indicates that there is a significant difference among factors of emotional intelligence of Equity investors in Kerala such as empathy, motivating oneself, self-management and social skill and their age. It reveals that stock market traders with various age groups are vary in terms of their empathy, motivating oneself, self-management and social skill when making investments decisions. It is made quite evident that investors in the stock market who fall into different age groups are not all the same when it comes to the emotional intelligence aspects that affect investments, such as empathy, self-motivation, self-management, and social skills.

The null hypothesis is rejected at the 5% level of significance for self-awareness since the P value is less than 0.05. It asserts that there is a significant difference among self

-awareness of Equity investors in Kerala and their age. That is Equity investors with various ages are vary in terms of self-awareness.

Post-hoc test of ANOVA

Table 5.12

Post Hoc Test for significant difference among factors of emotional intelligence of Equity investors in Kerala with regard to their age.

Factors of emotional intelligence	Age (I)	Age (J)	Mean difference (I-J)	Std. error	P value
Empathy		36 to 45	0.067	0.074	0.803 ^{NS}
	Up to 25	46 to 55	-0.844	0.124	<0.001**
		Above 55	0.285	0.147	0.215 ^{NS}
	36 to 45	46 to 55	-0.911	0.125	<0.001**
		Above 55	0.217	0.148	0.458 ^{NS}
	46 to 55	Above 55	1.129	0.178	<0.001**
Motivating oneself		36 to 45	-0.138	0.080	0.315 ^{NS}
	Up to 25	46 to 55	-0.836	0.133	<0.001**
		Above 55	-0.206	0.158	0.561 ^{NS}
	36 to 45	46 to 55	-0.698	0.134	<0.001**
		Above 55	-0.068	0.159	0.974 ^{NS}
	46 to 55	Above 55	0.629	0.191	0.006**
Self management		36 to 45	-0.306	0.074	<0.001**
	Up to 25	46 to 55	-0.331	0.104	0.008**
		Above 55	0.083	0.130	0.918 ^{NS}
	36 to 45	46 to 55	-0.024	0.105	0.995 ^{NS}
		Above 55	0.390	0.131	0.016*
	46 to 55	Above 55	0.415	0.149	0.030*
Self awareness		36 to 45	0.068	0.078	0.822 ^{NS}
	Up to 25	46 to 55	-0.130	0.109	0.631 ^{NS}
		Above 55	-0.333	0.137	0.074 ^{NS}
	36 to 45	46 to 55	-0.199	0.111	0.278 ^{NS}
		Above 55	-0.401	0.138	0.020*
	46 to 55	Above 55	-0.202	0.158	0.576 ^{NS}

Factors of emotional intelligence	Age (I)	Age (J)	Mean difference (I-J)	Std. error	P value
Social skill		36 to 45	0.077	0.064	0.630 ^{NS}
	Up to 25	46 to 55	-0.729	0.090	<0.001**
		Above 55	-0.068	0.112	0.931 ^{NS}
	36 to 45	46 to 55	-0.806	0.091	<0.001**
		Above 55	-0.145	0.113	0.576 ^{NS}
		46 to 55	Above 55	0.660	0.130

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant 5% level

3. ^{NS} denotes not significant

The following significant difference was found using the Tukey's HSD post hoc test among factors of emotional intelligence of Equity investors in Kerala and their age.

In case of empathy, investors in the ages of up to 25 are significantly differed from those who are in the ages of 46 to 55. Investors in the age group of 36 to 45 differed significantly from those who are in the ages of 46 to 55. Similarly, Equity investors in the age category of 46 to 55 differed greatly from those who are above 55 ages. In terms of motivating one self, investors in the age group of up to 25 are significantly differed from those who are in the ages of 46 to 55. Equity investors between the ages of 36 and 45 differ significantly from those between the ages of 46 and 55, while investors between the ages of 46 and 55 differ significantly from those above 55. Considering self-management, Equity investors in the ages of up to 25 are differed significantly from those in the ages of 36 to 45 and 46 to 55. Investors in the ages of 36 to 45 are significantly differed from those in the age group of above 55. Whereas, investors in the ages of 46 to 55 are differed significantly from those in the age category of above 55.

Regarding self-awareness, Equity investors in the age category of 36 to 45 are greatly differed from those in the ages of above 55. In terms of social skills, investors under the age of 25 differ significantly from those between the ages of 46 and 55. Similarly, investors between the ages of 36 and 45 differ significantly from those between the

ages of 46 and 55. Equity investors in the ages of 46 to 55 are differed significantly from those in the age group of above 55.

According to mean score, Equity investors aged 46 to 55 exhibit greater empathy when investing than investors aged up to 25, 36 to 45, and over 55. While investing in the stock market, investors aged 46 to 55 are more capable of motivating themselves than those aged up to 25, 36 to 45, and over 55. Equity investors between the ages of 36 to 45 are more capable of self-management while investing than those between the ages of up to 25 and above 55, whereas investors between the ages of 46 and 55 are more capable of self-management than those between the ages of up to 25 and above 55. Equity investors in the ages of above 55 have more self-awareness than those in the age group of 36 to 45. Investors in the age range of 46 to 55 have greater social skills that will aid them in their stock market investments than those in the age ranges of up to 25, 36 to 45, and over 55.

H.0:8 There is no significant difference among factors of emotional intelligence of Equity investors in Kerala and their education.

Table 5.13

T test for significant difference among factors of emotional intelligence of Equity investors in Kerala and their education.

Factors of emotional intelligence	Educational qualifications of the investors				F value	P value
	Up to HSC	Under graduate	Post graduate	Professional		
	Mean and SD	Mean and SD	Mean and SD	Mean and SD		
Empathy	3.81 (0.57)	3.72 (0.76)	3.70 (0.77)	3.60 (0.58)	0.728	0.536 ^{NS}
Motivating oneself	3.96 (0.86)	3.54 (0.77)	3.29 (0.70)	3.29 (0.54)	8.561	<0.001**
Self management	3.52 (0.46)	3.53 (0.77)	3.18 (0.55)	3.46 (0.56)	5.222	0.002**
Self awareness	3.40 (0.69)	3.82 (0.71)	3.48 (0.79)	3.58 (0.51)	7.500	<0.001**
Social skill	3.30 (0.42)	3.66 (0.70)	3.53 (0.59)	3.40 (0.43)	5.328	0.001**

Note: 1. ** denotes significant at 1% level

2. ^{NS} denotes not significant

Since the P value is less than 0.01, so the null hypothesis is refuted at 1% level of significance. It indicates that there is a significant difference among factors of emotional intelligence on investment regarding Equity investors in Kerala such as motivating oneself, self-management, self- awareness and social skill and their education. It reveals that stock market traders with various educational qualifications are different in terms of their motivating oneself, self-management, self- awareness and social skill when making investment decisions. It clearly says that Equity investors with different educational qualification are not same in case of factors of emotional intelligence on investment that is motivating oneself, self-management, self- awareness and social skill.

In terms of empathy, the P value is greater than 0.05, so the null hypothesis is accepted. It asserts that there is a no significant difference among empathy of Equity investors in Kerala and their education. That is Equity investors with different educational qualification are identical in terms of empathy.

Post-hoc test of ANOVA

Table 5.14

Post Hoc Test for significant difference among factors of emotional intelligence of Equity investors in Kerala and their education.

Factors of emotional intelligence	Age (I)	Age (J)	Mean difference (I-J)	Std. error	P value
Motivating oneself	Up to HSC	Under graduate	0.415	0.133	0.010**
		Post graduate	0.664	0.149	<0.001**
		Professional	0.671	0.154	<0.001**
	Post graduate	Under graduate	0.248	0.098	0.059 ^{NS}
		Professional	0.255	0.105	0.075 ^{NS}
		Professional	0.006	0.125	1.000 ^{NS}
Self management	Up to HSC	Under graduate	-0.004	0.122	1.000 ^{NS}
		Post graduate	0.340	0.137	0.064 ^{NS}
		Professional	0.059	0.142	0.97 ^{NS}
	Post graduate	Under graduate	0.344	0.088	<0.001**
		Professional	0.063	0.096	0.914 ^{NS}
		Professional	-0.281	0.114	0.069 ^{NS}

Factors of emotional intelligence	Age (I)	Age (J)	Mean difference (I-J)	Std. error	P value
Self awareness	Up to HSC	Under graduate	-0.414	0.125	0.006**
		Post graduate	-0.075	0.141	0.950 ^{NS}
		Professional	-0.175	0.146	0.626 ^{NS}
	Under graduate	Post graduate	0.338	0.090	0.001**
		Professional	0.238	0.099	0.077 ^{NS}
		Post graduate	-0.100	0.117	0.831 ^{NS}
Social skill	Up to HSC	Under graduate	-0.357	0.112	0.009**
		Post graduate	-0.231	0.126	0.260 ^{NS}
		Professional	-0.100	0.131	0.870 ^{NS}
	Under graduate	Post graduate	0.125	0.081	0.415 ^{NS}
		Professional	0.256	0.088	0.021*
		Post graduate	0.131	0.105	0.602 ^{NS}

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant 5% level

3. ^{NS} denotes not significant

By analysing Tukey's HSD post hoc test, the following significant difference was discovered among factors of emotional intelligence of Equity investors in Kerala and their education. In terms of motivating one self, investors with qualification of up to HSC are significantly differed from those who are under graduate, post graduate and professional qualification. Considering self-management, Equity investors who are under graduate is differed significantly from those who are post graduates. Regarding self- awareness, Equity investors with qualification of up to HSC are significantly differed from those with qualification of under graduation, while those qualifications of under graduates are significantly differed from those with qualification of post graduates. In case of social skills, investors with qualification of up to HSC are significantly differed from those who are under graduates while, Equity investors with qualification of under graduation are differed significantly from those who are post graduates.

According to mean score, Equity investors aged with qualification up to HSC are better at motivating themselves than those who have undergraduate, graduate, and

professional degrees. Equity investors with qualification of under graduation are more capable of self-management while investing than those with qualification of post graduation. Investors in the stock market with undergraduate degrees are more self-aware than those with post graduate degrees and up to the HSC level of qualification. Compared to investors with qualifications up to the HSC and professionals, investors with under graduation have better social skills that will help them in their stock market investments.

5.3.3 ASSOCIATION BETWEEN INVESTMENT PERSONALITY TRAITS AND BEHAVIOURAL BIASES

H.0:9 There is no significant difference between investors with high- and low-level openness personality traits with regard to their behavioral biases

Table 5.15

T test for significant difference between investors with high- and low-level openness personality traits with regard to their behavioral biases

Factors of behavioural biases	Levels of openness				T Value	P value
	Low level		High level			
	Mean	SD	Mean	SD		
Overconfidence bias	3.34	0.60	3.61	0.68	-4.152	<0.001**
Herd bias	3.38	0.81	3.24	0.72	1.737	0.083 ^{NS}
Anchoring biases	3.68	0.69	3.62	0.68	0.802	0.423 ^{NS}
Availability bias	3.18	0.73	3.24	0.63	-0.850	0.396 ^{NS}
Representativeness bias	3.64	0.80	3.77	0.66	-1.747	0.081 ^{NS}
Cognitive dissonance bias	3.04	0.86	2.95	0.90	0.974	0.330 ^{NS}
Loss aversion bias	3.23	0.70	3.36	0.62	-2.033	0.043*

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant at 5% level

3. ^{NS} denotes not significance

Because the P value is less than 0.01, the null hypothesis is rejected at the 1% significance level. As a result, there is a significant difference between investors with high- and low-level openness personality traits with regard to their overconfidence bias. In other words, there is a difference between investors who have high and low level of the openness personality characteristic in terms of their overconfidence bias.

In the case of loss aversion bias, the P value less than 0.05. Therefore, the null hypothesis is rejected at 5% level of significance. It can be specified that there is a significance difference between investors with high- and low-level openness personality traits with regard to their loss aversion bias.

In the case of herd bias, anchoring biases, availability bias, representativeness bias and cognitive dissonance bias the P value is greater than 0.05. Therefore, the null hypothesis is accepted. It indicates that, there is no significant difference between investors with high- and low-level openness personality traits with regard to their behavioral biases such as, herd bias, anchoring biases, availability bias, representativeness bias and cognitive dissonance bias.

Based on the mean score, it can be observed that investors exhibiting a higher degree of openness as a personality trait tend to display a greater propensity for both overconfidence bias and loss aversion bias when engaging in stock market investments, as compared to investors characterized by a lower level of openness personality traits.

H.0:10 There is no significant difference between investors with high- and low-level extra-version personality traits with regard to their behavioral biases

Table 5.16

T Test for significant difference between investors with high- and low-level extraversion personality traits with regard to their behavioral biases

Factors of behavioural biases	Levels of extraversion				T value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Overconfidence bias	3.44	0.69	3.61	0.61	-2.505	0.013*
Herd bias	3.16	0.84	3.52	0.54	-4.858	<0.001**
Anchoring biases	3.55	0.73	3.80	0.57	-3.689	<0.001**
Availability bias	3.12	0.61	3.38	0.73	-3.923	<0.001**
Representativeness bias	3.80	0.74	3.58	0.67	3.059	0.002**
Cognitive dissonance bias	2.95	0.81	3.05	1.00	-1.126	0.261 ^{NS}
Loss aversion bias	3.27	0.69	3.37	0.60	-1.512	0.131 ^{NS}

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant at 5% level

3.^{NS} denotes not significant

Since the P value is less than 0.01, the null hypothesis is rejected at the 1% significance level. As a result, there is a significant difference between investors with high- and low-level extra-version personality traits with regard to their behavioral bias such as herd bias, anchoring bias, availability bias and representativeness bias. In terms of herd bias, anchoring bias, availability bias, and representativeness bias, there is a difference between investors who having high and low levels of the extraversion personality trait.

In the case of overconfidence bias, the P value less than 0.05. Therefore, the null hypothesis is rejected at 5% level of significance. It can be specified that there is a significance difference between investors with high- and low-level extraversion personality traits with regard to their overconfidence bias.

In the case of herd bias, anchoring biases, availability bias, representativeness bias and cognitive dissonance bias the P value is greater than 0.05. Therefore, the null hypothesis is accepted. It indicates that, there is no significant difference between investors with high- and low-level openness personality traits with regard to their behavioral biases such as, herd bias, anchoring biases, availability bias, representativeness bias and cognitive dissonance bias.

Based on mean score, Equity investors with high level of extraversion personality trait exhibit high levels of overconfidence bias, herd bias, anchoring bias, and availability bias, while investors with low level of extraversion personality trait exhibit high levels of representativeness bias in the investment aspects.

H.0:11 There is no significant difference between investors with high- and low-level neuroticism personality traits with regard to their behavioral biases

Table 5.17

T Test for significant difference between investors with high- and low-level neuroticism personality traits with regard to their behavioral biases

Factors of behavioural biases	Levels of neuroticism personality traits				T value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Overconfidence bias	3.54	0.55	3.49	0.72	0.761	0.447 ^{NS}
Herd bias	3.27	0.79	3.31	0.74	-0.477	0.633 ^{NS}
Anchoring biases	3.61	0.60	3.66	0.73	-0.779	0.437 ^{NS}
Availability bias	3.18	0.76	3.24	0.61	-0.809	0.419 ^{NS}
Representativeness bias	3.46	0.71	3.87	0.68	-5.736	<0.001 ^{**}
Cognitive dissonance bias	2.74	0.84	3.13	0.88	-4.357	<0.001 ^{**}
Loss aversion bias	3.37	0.65	3.28	0.66	1.329	0.184 ^{NS}

Source: Primary Data

Note: 1. ^{**} denotes significant at 1% level

2. ^{NS} denotes not significant

The null hypothesis is rejected at a significance level of 1% due to the P value being less than 0.01. Consequently, significant variation exists between investors exhibiting high and low levels of neuroticism in terms of their behavioral biases, specifically representativeness bias and cognitive dissonance bias. When considering the phenomena of representativeness bias and cognitive dissonance bias, a distinction can be observed between investors exhibiting high and low levels of the personality trait known as neuroticism.

The P value for overconfidence bias, herd bias, anchoring biases, availability bias, and loss aversion bias exceeds the threshold of 0.05. Consequently, the null hypothesis has been determined to be accepted. The findings suggest that there is not a statistically significant distinction between investors exhibiting high and low levels of neuroticism with regard to of their behavioral biases, including overconfidence bias, herd bias, anchoring biases, availability bias, and loss aversion bias.

The findings suggest that individuals with high level of the neuroticism personality trait exhibit a greater prevalence of cognitive dissonance bias and representativeness bias in their stock market investment decisions, as indicated by the mean score.

H.0:12 There is no significant difference between investors with high- and low-level conscientiousness personality traits with regard to their behavioral biases

Table 5.18

T test for significant difference between investors with high- and low-level conscientiousness personality traits with regard to their behavioral biases

Factors of behavioural biases	Levels of conscientiousness personality traits				T value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Overconfidence bias	3.50	0.61	3.46	0.67	0.580	0.562 ^{NS}
Herd bias	3.30	0.73	3.26	0.74	0.574	0.566 ^{NS}
Anchoring biases	3.61	0.55	3.59	0.74	0.270	0.787 ^{NS}

Factors of behavioural biases	Levels of conscientiousness personality traits				T value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Availability bias	3.10	0.60	3.25	0.71	-2.177	0.030*
Representativeness bias	3.65	0.77	3.79	0.72	-1.769	0.078 ^{NS}
Cognitive dissonance bias	2.64	0.87	3.14	0.84	-5.663	<0.001**
Loss aversion bias	3.14	0.64	3.40	0.66	-3.796	<0.001**

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant at 5% level

3.^{NS} denotes not significant

The null hypothesis is rejected at a significance level of 1% due to the P value being less than 0.01. Investors with high and low levels of conscientiousness personality traits exhibit significant discrepancies in their behavioral biases, including cognitive dissonance bias and loss aversion bias. Investors with varying levels of the conscientiousness personality trait exhibit differences in cognitive dissonance bias and loss aversion bias.

The presence of availability bias is indicated by a P value that is less than 0.05. As a result, the null hypothesis is rejected with a significance level of 5%. There is a notable distinction between investors who possess high levels of conscientiousness and those with low levels of conscientiousness with regard to of their behavioral bias, specifically the availability bias. The P value for overconfidence bias, herd bias, anchoring biases, and representativeness bias is found to be greater than 0.05. Based on the evidence at hand, the null hypothesis is accepted. The findings suggest that there is no significant distinction between investors who possess high level of conscientiousness and those with low level of conscientiousness when it comes to their behavioral biases, including overconfidence bias, herd bias, anchoring biases, and representativeness bias.

The data suggests that individuals with high level of conscientiousness personality trait exhibit a higher prevalence of availability bias, cognitive dissonance bias, and

loss aversion bias compared to individuals with low level of conscientiousness personality characteristic, as indicated by the mean score.

H.0:13 There is no significant difference between investors with high- and low-level agreeableness personality traits with regard to their behavioral biases

Table 5.19

T Test for significant difference between investors with high- and low-level agreeableness personality traits with regard to their behavioral biases

Factors of behavioural biases	Levels of agreeableness personality traits				T Value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Overconfidence bias	3.28	0.64	3.67	0.63	-6.151	<0.001**
Herd bias	3.38	0.65	3.23	0.82	1.952	0.052 ^{NS}
Anchoring biases	3.54	0.59	3.72	0.74	-2.753	0.006**
Availability bias	3.31	0.58	3.15	0.72	2.481	0.014*
Representativeness bias	3.72	0.67	3.72	0.76	0.086	0.932 ^{NS}
Cognitive dissonance bias	2.94	0.81	3.02	0.93	-0.960	0.338 ^{NS}
Loss aversion bias	3.29	0.65	3.33	0.66	-0.483	0.629 ^{NS}

Source: Primary Data

Note: 1. ** denotes significant at 1% level

2. * denotes significant at 5% level

3.^{NS} denotes not significant

Because the P value is less than 0.01, the null hypothesis is rejected at the 1% significance level. As a result, there is a significant difference between investors with high- and low-level agreeableness personality traits with regard to their behavioral biases such as overconfidence bias and anchoring bias. It means, there is a difference between investors who have high and low levels of the agreeableness personality characteristic in terms of overconfidence bias and anchoring bias.

In the case of availability bias, the P value less than 0.05. Therefore, the null hypothesis is rejected at 5% level of significance. It can be specified that there is a

significance difference between investors with high- and low-level agreeableness personality traits with regard to their behavioral bias such as availability bias.

In the case of herd bias, representativeness bias, cognitive dissonance bias and loss aversion bias the P value is greater than 0.05. Therefore, the null hypothesis is accepted. It indicates that, there is no significant difference between investors with high- and low-level agreeableness personality traits with regard to their behavioral biases such as, herd bias, representativeness bias, cognitive dissonance bias and loss aversion bias

The mean score indicates that overconfidence and anchoring bias are more prevalent in Equity investors with high level of agreeableness personality trait while availability bias is more common among investors with low agreeableness personality trait.

5.3.4 ASSOCIATION BETWEEN INVESTMENT PERSONALITY TRAITS AND EMOTIONAL INTELLIGENCE

H.0: 14 There is no significant difference between investors with high- and low-level openness personality traits with regard to their factors of emotional intelligence

Table 5.20

T test for significant difference between investors with high- and low-level openness personality traits with regard to their factors of emotional intelligence

Factors of Emotional Intelligence	Levels of openness personality traits				T Value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Empathy	3.47	0.67	3.86	0.71	-5.489	<0.001**
Motivating oneself	3.24	0.70	3.66	0.75	-5.432	<0.001**
Self management	3.20	0.67	3.61	0.66	-6.035	<0.001**
Self awareness	3.44	0.77	3.83	0.63	-5.532	<0.001**
Social skill	3.36	0.61	3.69	0.62	-5.267	<0.001**

*Note: . ** denotes significant at 1% level*

At the 1% significance level, the null hypothesis is disproved because the P value is less than 0.01. As a result, there is a significant difference between investors with high- and low-level openness personality traits with regard to their factors of emotional intelligence such as empathy, motivating oneself, self-management, self-awareness and social skill. Investors with high and low openness personality trait levels differ from one other in terms of empathy, self-motivation, self-management, self-awareness, and social competence.

According to the mean score, Equity investors who have high level of openness personality traits are more likely to have high level of empathy, self-motivation, self-management, self-awareness, and social ability than those who have low level of openness personality traits.

H.0:15 There is no significant difference between investors with high- and low-level extraversion personality traits with regard to their factors of emotional intelligence

Table 5.21

T test for significant difference between investors with high- and low-level extraversion personality traits with regard to their factors of emotional intelligence

Factors of Emotional Intelligence	Levels of extraversion personality traits				T Value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Empathy	3.65	0.67	3.79	0.80	-1.832	0.068 ^{NS}
Motivating oneself	3.45	0.70	3.56	0.84	-1.344	0.180 ^{NS}
Self- management	3.29	0.56	3.72	0.79	-6.491	<0.001**
Self- awareness	3.52	0.66	3.94	0.72	-6.029	<0.001**
Social skill	3.46	0.55	3.73	0.72	-4.293	<0.001**

Note: 1. ** denotes significant at 1% level

2. ^{NS} denotes not significant

The null hypothesis is rejected at a significance level of 1% due to the P value being smaller than 0.01. The presence of high or low levels of extraversion personality traits

among investors leads to notable variations in their emotional intelligence factors such as self-management, self-awareness, and social skill. Investors who possess high and low levels of openness personality traits exhibit contrasting characteristics in terms of self-management, self-awareness, and social competence.

The statistical analysis indicates that there is no significant association between high and low levels of extraversion personality traits with regard to the empathy and self-motivation, as the calculated p-value is greater than the threshold of 0.05. Based on the available evidence, it appears that there is no notable distinction between investors who possess high level of extraversion and those with low level of extraversion in terms of their emotional intelligence factors, including empathy and self-motivation. There is no difference between Equity investors with low- to high-extraversion personality traits when considering the factors mentioned above.

Based on the mean score, there is a significant association between high level of extraversion personality in Equity investors and their levels of self-management, self-awareness, and social ability.

H.0:16 There is no significant difference between investors with high- and low-level neuroticism personality traits with regard to their factors of emotional intelligence

Table 5.22

T test for significant difference between investors with high- and low-level neuroticism personality traits with regard to their factors of emotional intelligence

Factors of Emotional Intelligence	Levels of neuroticism personality traits				T Value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Empathy	3.64	0.76	3.74	0.69	-1.247	0.213 ^{NS}
Motivating oneself	3.44	0.75	3.52	0.76	-1.002	0.317 ^{NS}
Self -management	3.44	0.71	3.45	0.68	-0.168	0.866 ^{NS}
Self-awareness	3.71	0.68	3.66	0.73	0.746	0.456 ^{NS}
Social skill	3.62	0.59	3.47	0.65	-2.398	0.017*

Source: Primary Data

Note: 1. * denotes significant at 5% level

2. ^{NS} denotes not significant

At the 5% significance level, the null hypothesis is rejected because the P value is less than 0.05. As a result, there is a significant difference between investors with high- and low-level neuroticism personality traits with regard to their factor of emotional intelligence such as social skill. The emotional intelligence element, like as social skills, varies among individuals according to the neuroticism of their personalities.

In case of empathy, motivating one self, self -management and self-awareness, the P value is greater than 0.05. So, it can be implied that, there is no significant difference between investors with high- and low-level neuroticism personality traits with regard to their factors of emotional intelligence such as empathy, motivating one self, self -management and self-awareness.

According to the mean score, Equity investors who have low level of neuroticism personality are more likely to have high levels of social skills than those who have high level of neuroticism personality.

H.0:17 There is no significant difference between investors with high- and low-level conscientiousness personality traits with regard to their factors of emotional intelligence

Table 5.23

T test for significant difference between investors with high- and low-level conscientiousness personality traits with regard to their factors of emotional intelligence

Factors of Emotional Intelligence	Levels of conscientiousness personality traits				T value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Empathy	3.74	0.69	3.68	0.74	0.876	0.382 ^{NS}
Motivating oneself	3.51	0.67	3.47	0.81	0.517	0.605 ^{NS}
Self -management	3.44	0.70	3.51	0.67	-0.988	0.324 ^{NS}
Self -awareness	3.65	0.72	3.68	0.67	-0.360	0.719 ^{NS}
Social skill	3.55	0.72	3.55	0.55	0.007	0.995 ^{NS}

Source: Primary Data

Note: ^{NS} denotes not significant

The null hypothesis is adopted since the P value is greater than 0.05. It concludes that there is no significant difference between investors with high and low levels of conscientiousness with regards to their emotional intelligence factors, such as empathy, self-motivation, self-management, self-awareness, and social skill.

H.0:18 There is no significant difference between investors with high- and low-level agreeableness personality traits with regard to their factors of emotional intelligence

Table 5.24

T test for significant difference between investors with high- and low-level agreeableness personality traits with regard to their factors of emotional intelligence

Factors of Emotional Intelligence	Levels of agreeableness personality traits				T Value	P Value
	Low level		High level			
	Mean	SD	Mean	SD		
Empathy	3.44	0.65	3.90	0.71	-6.360	<0.001**
Motivating oneself	3.32	0.72	3.62	0.76	-3.958	<0.001**
Self -management	3.23	0.68	3.61	0.65	-5.684	<0.001**
Self- awareness	3.50	0.82	3.81	0.59	-4.386	<0.001**
Social skill	3.25	0.55	3.79	0.59	-9.470	<0.001**

Source: Primary Data

*Note: ** denotes significant at 1% level*

As the P value is higher than 0.001, the alternative hypothesis is supported, whereas the null hypothesis is rejected at the 1% significance level. As a consequence of this, there is a significant disparity between investors who have high level of agreeableness personality traits and those who have low level of agreeableness personality traits with regard to their level of emotional intelligence, including factors such as self-motivation, self-management, self-awareness, and social ability. Investors who have high level of agreeableness and those who have low level of agreeableness differ with regard to of the social variables of emotional intelligence discussed above.

According to the mean score, Equity investors who have high levels of agreeableness personality are more likely to have high level of emotional intelligence than those who

have low level of agreeableness personality. This is because agreeableness is a personality trait that has a positive association with emotional intelligence. It is possible to figure out that Equity investors who have high level of agreeableness also have high level of empathy, self-motivation, self-management and self-awareness.

This section explored the investment personality traits and emotional intelligence of Equity investors in Kerala, as well as their socio-demographic and economic variations. Investors with different investment personalities are examined for behavioural biases in this chapter. This study examines Equity investors' personality attributes; Openness, Extraversion, Conscientiousness, Neuroticism, and Agreeableness were considered. Investors' emotional intelligence comprises empathy, self-motivation, self-management, self-awareness, and social skills. The researcher used socio-demographic, economic, and investment personality factors to compare data.

PART C

This part addresses the second research objective, which is to analyze the levels of behavioral biases displayed by Equity investors in Kerala, as well as the variations in these biases based on the socio-demographic and economic backgrounds of the investors. Behavioral biases of investors contain overconfidence bias, herd bias, anchoring biases, availability bias, representativeness bias, cognitive dissonance bias, and loss aversion bias. The socio-demographic and economic profile of the respondents for cross analysis includes variables such as gender, age, educational qualification, area of residence, annual income, and experience in share trading.

5.4 Objective II: To examine the levels of behavioral biases displayed by Equity investors in Kerala

To achieve this objective, the level of behavioural biases of the Equity investors and their various in socio-demographic and economic profiles of the investors was assessed. For this, Quartile settings, Percentage Analysis, and Chi-Square tests for goodness of fit and Chi-square test for association are used. Quartile settings is used to convert data into three quarter that Q1, Q2 and Q3. Percentage analysis is used to

measure the percentage of response contained in the each quarters. Chi-Square test is adopted for testing the significance of data distribution in the each quartile. Here the data is used as categorical nature; non-parametric test (Chi-square test) was employed for the data analysis.

5.4.1 THE LEVEL OF BEHAVIORAL BIASES OF THE EQUITY INVESTORS IN KERALA

The following five factors are considered as behavioural bias factors of Equity investors in Kerala;

1. *Overconfidence bias*
2. *Herd bias*
3. *Anchoring biases*
4. *Availability bias*
5. *Representativeness bias*
6. *Cognitive dissonance bias*
7. *Loss aversion bias*

H1:19 There is no significant difference among the levels of overconfidence bias of Equity investors in Kerala.

Table 5.25

Levels of over confidence bias of Equity investors in Kerala.

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of overconfidence bias	118 (28.4%)	172 (41.3%)	126 (30.3%)	416 (100%)	12.25	0.002**

Source: Primary Data

*Note: ** denotes 1% level significance.*

Since the P value is less than 0.01, so the null hypothesis is rejected at 1% level of significance. As a result, it suggests that there is a significant variation in the level of

overconfidence bias among investors in Kerala. Based on the data analysis, it is found that 28.4 percent of investors have a low level of overconfidence bias. 41.3 percent of investors show a moderate level of overconfidence bias, while 30.3 per cent have a high level of overconfidence bias regarding stock market investment. Finally, it may be assumed that a moderate amount of overconfidence bias occurs among Equity investors in Kerala. It is possible to claim that Equity investors in Kerala are modestly overconfident in their investments.

H.0:20 There is no significant difference among the levels of herd bias among the Equity investors in Kerala.

Table 5.26

Levels of herd bias of Equity investors in Kerala.

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of herd bias	128 (30.8%)	138 (33.2%)	150 (36.1%)	416 (100%)	1.75	0.417 ^{NS}

Source: Primary Data

Note: ^{NS} denotes not significant

The null hypothesis is accepted since the P value is greater than 0.05. As a result, there appears to be no significant variation in the levels of herd bias among the Equity investors in Kerala.

H.0:21 There is no significant difference among the levels of anchoring bias among the Equity investors in Kerala.

Table 5.27

Levels of anchoring bias among the Equity investors in Kerala.

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of anchoring bias	86 (20.7%)	218 (52.4%)	112 (26.9%)	416 (100%)	70.51	<0.001**

Source: Primary Data

*Note: ** denotes 1% level significance.*

Because the P value is less than 0.01 at the 1% level of significance, the null hypothesis is rejected. Therefore, it implies that there is a significant variance in the level of anchoring bias among investors in Kerala, 20.7 percent of them have a low level of anchoring bias. 52.4 percent of investors show a moderate level of anchoring bias towards the stock market, while 26.9 percent have a high level of anchoring bias. Consequently, investors exhibit a moderate amount of anchoring bias.

H0:22 There is no significant difference among the levels of availability bias of Equity investors in Kerala.

Table 5.28

Levels of levels of availability bias of Equity investors in Kerala

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of availability bias	118 (28.4%)	172 (41.3%)	126 (30.3%)	416 (100%)	12.25	0.002**

Source: Primary Data

*Note: ** denotes 1% level significance.*

At the 1% level of significance, the null hypothesis is rejected because the P value is less than 0.01. As a result, it implies that there is a significant difference in the levels of availability bias among investors. Among the investors, 28.4 per cent of them experience low level of availability bias. 41.3 per cent of investors say that they have a

moderate level of availability bias, while 30.3 per cent have high level of availability bias. According to the data, investors in Kerala exhibit a moderate amount of availability bias as part of behavioural biases in stock market investing.

H0:23 There is no significant difference among the levels of representativeness bias of Equity investors in Kerala.

Table 5.29

Levels of representativeness bias of Equity investors in Kerala.

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of representativeness bias	72 (17.3%)	236 (56.7%)	108 (26%)	416 (100%)	107.15	<0.001**

Source: Primary Data

Note: ** denotes 1% level significance.

The null hypothesis is rejected at a 1% level of significance since the P value is below 0.01. As a result, it implies that there is a significant difference in the level of representativeness bias of Equity investors in Kerala. 17.3 per cent of investors have low level of representativeness bias, according to data. 56.7 per cent of Equity investors experience a moderate level of representativeness bias, while 26 per cent have a high level of representativeness bias. The results obviously showed that investors in Kerala exhibit a modest level of representativeness bias among stock market investments.

H0:24 There is no significant difference among the levels of cognitive dissonance bias of Equity investors in Kerala.

Table 5.30

Levels of cognitive dissonance bias of Equity investors in Kerala.

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of cognitive dissonance bias	80 (19.2%)	196 (47.1%)	140 (33.7%)	416 (100%)	48.53	<0.001**

Source: Primary Data

Note: ** denotes 1% level significance.

The obtained P value, which is less than 0.01 at a significance level of 1%, leads to the rejection of the null hypothesis. Hence, the findings indicate a significant difference in the levels of cognitive dissonance bias among Equity investors in the state of Kerala. Based on the findings of the study, it was determined that 19.2 percent of investors exhibit a low level of cognitive dissonance bias. A moderate level of cognitive dissonance bias was identified in 47.1 percent of investors. Approximately 33.7 percent of Equity investors in Kerala demonstrate high level of cognitive dissonance bias.

The results unequivocally indicated that investors who participate in the stock market exhibit moderate levels of cognitive dissonance bias during the process of making investment decisions.

H0:25 There is no significant difference among the levels of loss aversion bias of Equity investors in Kerala.

Table 5.31

Levels of levels of loss aversion bias of Equity investors in Kerala.

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of loss aversion bias	108 (26%)	158 (38%)	150 (36.1%)	416 (100%)	10.40	0.006**

Source: Primary Data

Note: ** denotes 1% level significance.

Since the P value is less than 0.01, therefore the null hypothesis is rejected. Hence, it suggests that there is a significance difference in the level of loss aversion bias among Equity investors in Kerala. The

results show that, 26 per cent of investors have a low level of loss aversion bias. A high level of loss aversion bias is observed in 36.1 per cent of Equity investors, compared to a moderate level in 38 per cent.

The research conclusively shown that there is a moderate amount of loss aversion bias among stock market participants in Kerala regarding their investments.

5.4.2 THE LEVEL OF BEHAVIORAL BIASES ACROSS VARIOUS SOCIO-DEMOGRAPHIC AND ECONOMIC PROFILE OF THE INVESTORS IN KERALA

The following five factors are considered as socio-demographic factors for the analysis

(1) Gender (2) Age (3) Educational Qualification (4) Occupation

5.4.2.1 Behavioural biases across gender of the investors

H.0:26 There is no significant association between gender and the level of overconfidence bias of the Equity investors in Kerala.

Table 5.32

Chi-square test for association between gender and the level of overconfidence bias of the Equity investors in Kerala.

Gender	Level of overconfidence bias			Total	Chi- square Value	P value
	Low level	Moderate Level	High level			
Male	110 28.9%	148 38.9%	122 32.1%	380 100.0%	11.42	0.003**
Female	20 55.5%	12 33.3%	4 11.1%	36 100.0%		
Total	130 31.2%	160 38.4%	126 30.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The P value is less than 0.01 at a significance level of 1%, and the null hypothesis is disproved. This finding indicates a significant disparity in the overconfidence bias of Equity investors in Kerala based on gender. According to the data, it is observed that among male investors, 28.9 percent exhibit a low level of overconfidence bias, while 38.9 percent display a moderate level, and 32.1 percent demonstrate a high level of overconfidence bias. When examining the female investors, it is observed that approximately 55.5 per cent of them having a low level of overconfidence bias. 33.3

per cent of female investors exhibit a moderate level of overconfidence bias in relation to their stock market investments, while 11.1 per cent of female investors show a high level of overconfidence bias.

Overall, female investors of the stock market in Kerala tend to exhibit lower levels of overconfidence bias, whereas male investors are more prone to exhibiting higher levels of overconfidence bias. The findings suggest that male investors in stock markets in Kerala exhibit a high level of overconfidence bias compared to female counterparts.

H.0:27 There is no significant association between gender and the level of herd bias of the Equity investors in Kerala.

Table 5.33

Chi-square test for association between gender and the level of herd bias of the Equity investors in Kerala.

Gender	Level of herd bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Male	128 33.7%	122 32.1%	130 34.2%	380 100.0%		
Female	5 13.8%	11 30.5%	20 55.6%	36 100.0%	17.79	<0.001**
Total	133 28.8%	133 31.9%	150 36.1%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

The fact that the P value is less than 0.01 at the 1% level of significance refutes the null hypothesis. It implies that there is a significant association between gender and the level of herd bias of the Equity investors in Kerala. It is noted from the data that among male investors, 33.7percent having a low level of herd bias, 32.1 per cent have a moderate level, and 34.2percent experience a high level of herd bias related with their investments in stock market. In the case of female investors, a low degree of herd bias is demonstrated by 13.8 percent of them, moderate levels are shown by 30.5 per

cent of them, and high levels are shown by 55.6 percent of them in respect to their stock market investments.

In general, male Equity investors in Kerala tend to show less herd bias than female investors, who are more likely to show more herd bias. The results indicate that, in comparison to their male counterparts, female Equity investors in Kerala show a high degree of herd bias.

H.0:28 There is no significant association between gender and the level of anchoring bias of the Equity investors in Kerala.

Table 5.34

Chi-square test for association between gender and the level of anchoring bias of the Equity investors in Kerala.

Gender	Level of anchoring bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Male	86 22.6%	186 48.9%	108 28.4%	380 100.0%	21.81	<0.001**
Female	20 55.5%	12 33.3%	4 11.1%	36 100.0%		
Total	106 25.4%	198 47.5%	112 26.9%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Since the P value is less than 0.01, so the null hypothesis is rejected. This data suggests that there is a significant gender-based difference in the anchoring bias of Equity investors in Kerala. In light of the facts, it is seen that among male investors, 22.6 percent show a low degree of anchoring bias, 48.9 percent display a moderate level, and 28.4 percent present a high level of anchoring bias regarding their stock market investments. Considering female investors, 33.3 percent of female investors exhibit a moderate level of anchoring bias, while 11.1 percent of them exhibit a high level and about 55.5 per cent of them were discovered to have low level anchoring bias.

In general, female investors in stock market typically display lower levels of anchoring bias than male investors, who are more likely to display higher levels of anchoring bias. According to the research, as compared to the female investors, male Equity investors in Kerala show a high level of anchoring bias.

H.0:29 There is no significant association between gender and the level of availability bias of the Equity investors in Kerala.

Table 5.35

Chi-square test for association between gender and the level of availability bias of the Equity investors in Kerala.

Gender	Level of availability bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Male	118 31.1%	152 40.0%	110 28.9%	380 100.0%	15.71	<0.001**
Female	5 13.8%	15 41.6%	16 44.4%	36 100.0%		
Total	123 29.5%	167 40.1%	126 30.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The null hypothesis is disproved by the fact that the P value is less than 0.01 at the 1% level of significance. This data suggests that there is a significant association between gender and the level of availability bias of the Equity investors in Kerala. It can be analyzed among male investors, 31.1 percent of investors experience a low availability bias, 40.0 percent exhibit a moderate availability bias, and 28.9 percent experience a high availability bias when it comes to their stock market investments. Concerning female investors, it was discovered that 13.8 per cent of them exhibited smaller availability bias. 41.6 percent of female investors show a moderate level of availability bias when it comes to their stock market investments, and 44.4 percent show a high level of it.

Male investors often exhibit lower levels of availability bias than female investors in stock market, who are more likely to exhibit higher levels of availability bias. The study finds that female Equity investors in Kerala exhibit a greater level of availability bias compared to male investors.

H.0:30 There is no significant association between gender and the level of representativeness bias of the Equity investors in Kerala.

Table 5.36

Chi-square test for association between gender and the level of representativeness bias of the Equity investors in Kerala.

Gender	Level of representativeness bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Male	60 15.8%	224 58.9%	96 25.3%	380 100.0%	10.47	0.005**
Female	5 13.8%	19 52.7%	12 33.3%	36 100.0%		
Total	65 15.6%	243 72.8%	108 26.0%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

The P value at the 1% level of significance is less than 0.01 and prevents the null hypothesis from being accepted. It shows that there is a significant association between gender and the level of representativeness bias of the Equity investors in Kerala. It can be analyzed among male investors, 15.8 per cent of investors have a low level of representativeness bias, 58.9 per cent have a moderate representativeness bias, and 25.3 per cent have a high-level representativeness bias when it comes to their stock market investments. As it came to female investors, it was found that 13.8 per cent of them shown lower levels of representativeness bias. 52.7 percent of female investors exhibit a moderate level of representativeness bias when it comes to their stock market investments, while 33.3 percent demonstrate a high level of it.

Male Equity investors in Kerala frequently have lower levels of representativeness bias than female investors, who are more likely to display higher levels of representativeness bias. According to the study, female Equity investors in Kerala show more representativeness bias than male investors regarding their investments.

H.0:31 There is no significant association between gender and the level of cognitive dissonance bias of the Equity investors in Kerala.

Table 5.37

Chi-square test for association between gender and the level of cognitive dissonance bias of the Equity investors in Kerala.

Gender	Level of cognitive dissonance bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Male	80 21.1%	172 45.3%	128 33.7%	380 100.0%	10.77	0.005**
Female	19 52.7%	5 13.8%	12 33.3%	36 100.0%		
Total	80 19.2%	196 47.1%	140 33.7%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

As the P value is less than 0.01, the null hypothesis is rejected at 1% significance level. It shows that there is a significant difference between gender and the level of cognitive dissonance bias of the Equity investors in Kerala. It can be analyzed among male investors, 21 per cent of investors have a low level of cognitive dissonance bias when it comes to their stock market investments, 45.3 per cent have a moderate level, and 33.7 per cent have a high-level cognitive dissonance bias. In the case of female investors, it was found that 52.7 per cent of them shows lower levels of cognitive dissonance bias. 13.8 per cent of female investors display moderate level of cognitive dissonance bias, however 33.3 per cent of them express a high-level amount of it.

Female investors in stock market usually have lower levels of cognitive dissonance bias than male investors, who are more likely to have higher levels of cognitive dissonance bias. Based on the investigation, male Equity investors demonstrate more cognitive dissonance bias than female investors.

H.0:32 There is no significant association between gender and the level of loss aversion bias of the Equity investors in Kerala.

Table 5.38

Chi-square test for association between gender and the level of loss aversion bias of the Equity investors in Kerala.

Gender	Level of loss aversion bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Male	108 28.4%	142 37.4%	130 34.2%	380 100.0%	14.82	0.001**
Female	5 13.8%	11 30.5%	20 55.6%	36 100.0%		
Total	113 26.0%	153 38.0%	150 36.1%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

At the 1% significance level, the null hypothesis is rejected since the P value is less than 0.01. It demonstrates that there is significant variation between gender and the level of loss aversion bias among Equity investors in Kerala. It can be observed among male investors, 28.4 per cent of investors have a low level of loss aversion bias, 37.4 per cent have a moderate level of loss aversion bias, and 34.2 per cent express a high level of loss aversion bias. In the case of female investors, it was found that 13.8 percent of them exhibit low levels of loss aversion bias, 30.5 percent express a moderate level of loss aversion bias, and 55.6 percent exhibit high level of loss aversion bias.

It can be seen that male investors have a lower degree of loss aversion bias, but female investors have a higher level of loss aversion bias in terms of stock market investment.

When compared to male investors, female investors believe they have stronger loss aversion bias in their stock market investments.

5.4.2.2 Behavioural biases across various age groups of the investors

H.0:33 There is no significant association between age and the level of overconfidence bias of Equity investors in Kerala.

Table 5.39

Chi-square test for association between age and the level of overconfidence bias of Equity investors in Kerala.

Age groups of investors	Level of overconfidence bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	56 32.6%	80 46.5%	36 20.9%	172 100.0%	36.70	<0.001**
36 to 45	40 25.6%	72 46.2%	44 28.2%	156 100.0%		
46 to 55	14 25.0%	8 14.3%	34 60.7%	56 100.0%		
Above 55	8 25.0%	12 37.5%	12 37.5%	32 100.0%		
Total	118 28.4%	172 41.3%	126 30.3%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

Given that the P value is less than 0.01 at the 1% level of significance, the null hypothesis is rejected. It indicates that there is significant difference between age and the level of overconfidence bias among Kerala Equity investors. It can be analyzed that among investors with age group of up to 36 years, 32.6 percent of investors have a low level of overconfidence bias, 46.5 percent expressing a moderate level, and 20.9 percent exhibiting a higher level regarding their stock market investments. In the case of investors in the ages of 36 to 45, it was found that 25.6 percent demonstrating that a low level of overconfidence bias, 46.2 percent experience a moderate level of overconfidence bias in their stock market investments, whereas 28.2 per cent displaying a high level of it. While considering the investors in the age category of 46

to 55, 25 per cent of them feels a low level of overconfidence bias in their stock market investments. 14.3 per cent have a moderate level and 60.7 per cent experiencing a high level of overconfidence bias on their investments. Regarding the investors in the age group of above 55, 25 percent experiencing they have a low level of overconfidence bias while investing in the stock market. On stock market investments, 37.5 percent of investors have a moderate level of overconfidence bias, while 37.5 percent having a higher level of overconfidence bias.

Ultimately, among Equity investors in Kerala with age group of up to 36 years tend to have a lower overconfidence bias, whilst investors in the age category of 46 to 55 are more likely to make more overconfidence bias. The data imply that investors in the age category of 46 to 55 in Kerala stock markets have more overconfidence bias on their investments than those in the ages of up to 36, 36 to 45 and above 55.

H.0:34 There is no significant association between age and the level of herd bias of the Equity investors in Kerala.

Table 5.40

Chi-square test for association between age and the level of herd bias of the Equity investors in Kerala.

Age groups of investors	Level of herd bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	64 37.2%	56 32.6%	52 30.2%	172 100.0%	16.86	0.010**
36 to 45	44 28.2%	60 38.5%	52 33.3%	156 100.0%		
46 to 55	12 21.4%	16 28.6%	28 50.0%	56 100.0%		
Above 55	8 25.0%	6 18.8%	18 56.3%	32 100.0%		
Total	128 30.8%	138 33.2%	150 36.1%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

The P value is less than 0.01 at the 1% level of significance, proving the null hypothesis to be invalid. It implies that there is significant variance between age and the level of herd bias among Equity investors in Kerala. It can be examining that among investors with age group of up to 36 years, 37.2 percent of investors have a low level of herd bias, 32.6 percent display a moderate level, and 30.2 percent possess a higher level with regard to their stock market investments. In the case of investors in the ages of 36 to 45, it was found that 28.2 per cent express that a low level of herd bias, 38.5 per cent experience a moderate level of herd bias in their stock market investments, whereas 33.3 per cent demonstrating a high level of it. While considering the investors in the age category of 46 to 55, a low level of herd bias is demonstrated by 21.4per cent of investors, a moderate level by 28.6 per cent of investors, and a high level by 50 per cent of investors on their stock market investments. Regarding the investors in the age group of above 55, 25 percent have a low level of herd bias while investing in the stock market. In comparison to 18.8 per cent of investors who showed a moderate degree of herd bias, 56.3 per cent of respondents have a high level of herd bias towards their investments in stock exchange

Finally, investors under the age of 36 in stock market tend to have a low level of herd bias, whilst investors beyond the age of 55 are more likely to have a higher herd bias. The data imply that investors in the age category of above 55 in Kerala stock markets experiencing more herd bias on their investments than other age groups such as up to 36 years, 36 to 45 and 46 to 55.

H.0:35 There is no significant association between age and the level of anchoring bias of the Equity investors in Kerala.

Table 5.41

Chi-square test for association between age and the level of anchoring bias of the Equity investors in Kerala.

Age groups of investors	Level of anchoring bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	56 32.6%	88 51.2%	28 16.3%	172 100.0%	47.70	<0.001**
36 to 45	28 17.9%	84 53.8%	44 28.2%	156 100.0%		
46 to 55	2 3.6%	26 46.4%	28 50.0%	56 100.0%		
Above 55	5 15.6%	15 46.8%	12 37.5%	32 100.0%		
Total	86 20.7%	218 52.4%	112 26.9%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

Since the P value is below 0.01, then the null hypothesis is invalidated at 1% level of significance. It suggests that there is significant distinction between age and the level of anchoring bias among Equity investors. It can be examined that among investors with age group of up to 36 years, a low level of anchoring bias towards stock market investment is expressed by 32.6 per cent of investors. A moderate level of anchoring bias towards stock market investment was expressed by 51.2 per cent of investors, and a strong anchoring bias was experienced by 16.3 per cent of respondents. In the case of investors in the ages of 36 to 45, a high degree of anchoring bias towards investments in stock market is shown by 28.2 per cent of them, a moderate level of anchoring bias by 53.8 per cent of them, and a low level of anchoring bias by 17.9 per

cent of them. While considering the investors in the age category of 46 to 55, a low level of anchoring bias is demonstrated by 3.6 per cent of investors, a moderate level by 46.4 per cent of investors, and a high level by 50 per cent of investors on their stock market investments. Regarding the investors in the age group of above 55, 15.6 percent exhibiting low level of anchoring bias while investing in the stock market. In comparison to 46.8 per cent of investors who showed a moderate degree of anchoring bias, 37.5 per cent of investors have a high level of anchoring bias towards their investments in stock exchange

To conclude, investors under the age of 36 have a lower anchoring bias, but investors between the ages of 46 to 55 have a higher anchoring bias. According to the findings, investors in Kerala stock markets aged 46 to 55 exhibit stronger anchoring bias in their investments than those aged up to 36, 36 to 45, and over 55.

H.0:36 There is no significant association between age and the level of availability bias of the Equity investors in Kerala.

Table 5.42

Chi-square test for association between age and the level of availability bias of the Equity investors in Kerala.

Age groups of investors	Level of availability bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	72 41.9%	64 37.2%	36 20.9%	172 100.0%		
36 to 45	24 15.4%	68 43.6%	64 41.0%	156 100.0%		
46 to 55	18 32.1%	24 42.9%	14 25.0%	56 100.0%	36.92	<0.001**
Above 55	4 12.5%	16 50.0%	12 37.5%	32 100.0%		
Total	118 28.4%	172 41.3%	126 30.3%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

The null hypothesis is refuted since the P value is less than the 1% level of significance. It reveals that among Equity investors in Kerala, there is a significant difference between age and the level of availability bias. It is possible to investigate that among investors with age group of up to 36 years, 41.9 percent of investors show a low level of availability bias towards the stock market investment. 37.2 percent of investors demonstrating a moderate level of availability bias towards stock market investment, while 20.9 percent exhibiting a low level of availability bias. In the case of investors in the ages of 36 to 45, 41 per cent of them exhibit a high degree of availability bias towards stock market investments, followed by 43.6 per cent who reflect a moderate level of availability bias, and 15.4 per cent who express a low level of availability bias. While considering the investors in the age category of 46 to 55, low availability bias is present in 32.1 per cent of investors, moderate availability bias is prevalent in 42.9 per cent of investors, and high availability bias is prominent in 25 per cent of investors in regard to their stock market investments. Regarding the investors in the age group of above 55, 12.5 per cent of Equity investors exhibits a low level of availability bias. 37.5 per cent of investors having a high level of availability bias towards their stock market investments, as compared to 50 per cent of investors who displayed a moderate degree of availability bias.

To sum up, investors under the age of 36 have a low level of availability bias in stock market in Kerala, but investors between the ages of 36 and 45 have a higher availability bias. The results show that investors in stock markets between the ages of 36 and 45 show larger availability bias in their investments than investors between the ages of 36 and under, 46 to 55, and investors above 55.

H.0:37 There is no significant association between age and the level of representativeness bias of the Equity investors in Kerala.

Table 5.43

Chi-square test for association between age and the level of representativeness bias of the Equity investors in Kerala.

Age groups of investors	Level of representativeness bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	16 9.3%	104 60.5%	52 30.2%	172 100.0%	36.58	<0.001**
36 to 45	36 23.1%	72 46.2%	48 30.8%	156 100.0%		
46 to 55	16 28.6%	32 57.1%	8 14.3%	56 100.0%		
Above 55	4 12.5%	23 71.8%	5 15.6%	32 100.0%		
Total	72 17.3%	231 55.5%	113 27.1%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

Given that the P value is below the 1% level of significance, the null hypothesis is rejected. It reveals that there is a significant association between age and the level of representativeness bias of the Equity investors in Kerala. It can be analysed among investors with age group of up to 36 years, a low level of representativeness bias towards stock market investments is prevalent among 9.3 percent of investors. A moderate level of representativeness bias was experienced by 60.5 per cent of investors, whereas a high level of representativeness bias was expressed by 30.2 per cent of investors towards their investments in stock market. In the case of investors in the ages of 36 to 45, 30.8 per cent of them exhibit a high degree of representativeness bias towards stock market investments, followed by 46.2 per cent who reflect a moderate level of representativeness bias, and 23.1 per cent who express a low level of representativeness bias. While considering the investors in the age category of 46 to 55, 14.3 per cent of investors have high representativeness bias, 57.1

per cent of investors have moderate representativeness bias, and 28.6 per cent of investors have low representativeness bias in terms of their stock market investments. Regarding the investors in the age group of above 55, 12.5 per cent of Equity investors have a low level of representativeness bias. In comparison to the 71.8 per cent of investors who showed a moderate level of representativeness bias, 15.6 per cent of investors having a high level of representativeness bias towards their stock market investments.

To sum up, investors in the ages of 46 to 55 have a lesser representativeness bias in stock market investment, but investors between the ages of 36 to 45 have a higher representativeness bias. The findings indicate that, compared to investors between the ages of up to 36, 46 to 55, and investors over 55, Kerala Equity investors between the ages of 36 to 45 exhibit greater representativeness bias in their investments.

H.0:38 There is no significant association between age and the level of cognitive dissonance bias of the Equity investors in Kerala.

Table 5.44

Chi-square test for association between age and the level of cognitive dissonance bias of the Equity investors in Kerala.

Age groups of investors	Level of cognitive dissonance bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	40 23.3%	88 51.2%	44 25.6%	172 100.0%	35.52	<0.001**
36 to 45	32 20.5%	72 46.2%	52 33.3%	156 100.0%		
46 to 55	27 48.2%	5 8.9	24 42.9%	56 100.0%		
Above 55	8 25.0%	4 12.5%	20 62.5%	32 100.0%		
Total	85 20.4%	191 45.9%	140 33.7%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

The null hypothesis is rejected because the P value is less than the 1% level of significance. It reveals that among Equity investors, there is a significant difference between age and the level of cognitive dissonance bias. It can be observed among investors with age group of up to 36 years, 23.3 percent of investors having a low level of cognitive dissonance bias towards stock market investments. 51.2 per cent of investors experienced a moderate level of cognitive dissonance bias, while 25 per cent of investors displayed a high degree of cognitive dissonance bias with regard to their stock market investments. In the case of investors in the ages of 36 to 45, 33.3per cent of them exhibit a high degree of cognitive dissonance bias towards stock market investments, followed by 46.2 per cent who reflect a moderate level of cognitive dissonance bias, and 20.5 per cent who express a low level of cognitive dissonance bias. While considering the investors in the age category of 46 to 55, 42.9 per cent of investors have high cognitive dissonance bias, 8.9 per cent of investors have moderate cognitive dissonance bias, and 48.2 per cent of investors have low cognitive dissonance bias in terms of their stock market investments. Regarding the investors in the age group of above 55, 25 per cent of Equity investors have a low level of cognitive dissonance bias. In comparison to the 12.5 per cent of investors who showed a moderate level of cognitive dissonance bias, 62.5 per cent of investors having a high level of cognitive dissonance bias towards their stock market investments.

To conclude, it can be stated that low level of cognitive dissonance bias is more common among investor in the ages of 46 to 55 and high level of cognitive dissonance bias is more prevalent among investors in the age group of above 55. The findings indicate that, compared to investors between the ages of 36 and under, 36 to 45 and 46 to 55, Equity investors in Kerala between the ages of more than 55 exhibit greater cognitive dissonance bias in their investments.

H.0:39 There is no significant association between age and the level of loss aversion bias of the Equity investors in Kerala.

Table 5.45

Chi-square test for association between age and the level of loss aversion bias of the Equity investors in Kerala.

Age groups of investors	Level of loss aversion bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	60 34.9%	52 30.2%	60 34.9%	172 100.0%	64.52	<0.001**
36 to 45	40 25.6%	80 51.3%	36 23.1%	156 100.0%		
46 to 55	8 14.3%	22 39.3%	26 46.4%	56 100.0%		
Above 55	4 12.5%	4 12.5%	24 75%	32 100.0%		
Total	112 26.9%	158 38.0%	146 35%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

Because the P value is less than the 1% level of significance, the null hypothesis is disregarded. It demonstrates that there is a significant difference between age and the degree of loss aversion bias among Equity investors in Kerala. It can be observed among investors with age group of up to 36 years, 34.9 percent of investors showed a low level of loss aversion bias towards stock market investments. 30.2 per cent of investors expressed a moderate level of loss aversion bias, while 34.9 per cent of investors reported a high level of loss aversion bias with regard to their stock market investments. In the case of investors in the ages of 36 to 45, 25.6 per cent of them exhibit a low level of loss aversion bias towards stock market investments, followed by 51.3 per cent who reflect a moderate level of loss aversion bias, and 23.1 per cent who express a high level of loss aversion bias. While considering the investors in the age category of 46 to 55, 14.3 per cent of investors have low level of loss aversion bias, 39.3 per cent of investors have moderate level of loss aversion bias, and 46.4 per cent of investors have high level of loss aversion bias in terms of their stock market

investments. Regarding the investors in the age group of above 55, 12.5 per cent of Equity investors experience a low level of loss aversion bias. In comparison to the 12.5 per cent of investors who showed a moderate level of loss aversion bias, 75 per cent of investors having a high level of loss aversion bias towards their stock market investments.

In conclusion, it can be said that investors under the age of 36 have a higher prevalence of low-level loss aversion bias, whereas investors above the age of 55 have a higher prevalence of high-level loss aversion bias. The results show that investors over the age of 55 in stock market demonstrate larger loss aversion bias in their investments than investors between the ages of 36 and under, 36 to 45, and 46 to 55.

5.4.2.3 Behavioural biases across educational qualifications of the investors

H₀:40 There is no significant association between education and the level of overconfidence bias of the Equity investors in Kerala.

Table 5.46

Chi-square test for association between education and the level of overconfidence bias of the Equity investors in Kerala.

Educational qualifications	Level of overconfidence bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	12 33.3%	12 33.3%	12 33.3%	36 100.0%	10.70	0.098 ^{NS}
Under graduate	54 22.9%	104 44.1%	78 33.1%	236 100.0%		
Post graduate	32 40.0%	28 35.0%	20 25.0%	80 100.0%		
Professional	20 31.3%	28 43.8%	16 25.0%	64 100.0%		
Total	118 28.4%	172 41.3%	126 30.3%	416 100.0%		

Source: Primary Data

^{NS} denotes Not Significant level

As a result of the P value being greater than 0.05, the null hypothesis is accepted. Thus, it implies that there is no significant correlation between education and the degree of overconfidence bias among stock market participants in Kerala.

H.0:41 There is no significant association between education and the level of herd bias with of the Equity investors in Kerala.

Table 5.47

Chi-square test for association between education and the level of herd bias of the Equity investors in Kerala.

Educational qualifications	Level of herd bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	16 44.4%	8 22.2%	12 33.3%	36 100.0%	21.63	0.001**
Under graduate	56 23.7%	90 38.1%	90 38.1%	236 100.0%		
Post graduate	24 30.0%	28 35.0%	28 35.0%	80 100.0%		
Professional	32 50.0%	12 18.8%	20 31.3%	64 100.0%		
Total	128 30.8%	138 33.2%	150 36.1%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The P value is less than 0.01 at the 1% level of significance, hence the null hypothesis cannot be accepted. Accordingly, it indicates that there is a significant association between education and the level of herd bias of the Equity investors in Kerala. Based on the data it can be analysed that among the investors with qualification of up to HSC, 44.4 per cent of them having low level of herd bias in stock exchange. 22.2 per cent of them have moderate level of herd bias and 33.3 per cent exhibit a high level of herd bias regarding their investments in stock market. In the case of investors with qualification of under graduate, 23.7 per cent exhibit low level of herd bias, 38.1 per cent have moderate level, whereas 38.1 per cent experience high level of herd bias

towards stock market investments in Kerala. While considering investors who are post graduate, 30 per cent of them exhibit low level of herd bias in stock market investments. 35 per cent exhibit a moderate level of herd bias, whereas 35 per cent reflect a high level of herd bias in relation to stock market investments. In terms of investors with professional qualification, 31.3 per cent having a high level of herd bias. 18.8 per cent of investors have a moderate level of herd bias, and 50 per cent of those investors expressed a low level of herd bias in the stock market investment.

It can be concluded that investors with professional qualifications exhibit lower levels of herd bias than investors with undergraduate degrees, who exhibit higher levels of herd bias. Thus, stock market participants in Kerala with undergraduate degrees are more likely to exhibit herd bias than those with HSE, postgraduate, or professional degrees.

H.0:42 There is no significant association between education and the level of anchoring bias of the Equity investors in Kerala.

Table 5.48

Chi-square test for association between education and the level of anchoring of the Equity investors in Kerala.

Educational qualifications	Level of anchoring bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	12 33.3%	20 55.6%	4 11.1%	36 100.0%	12.64	0.049*
Under graduate	42 17.8%	126 53.4%	68 28.8%	236 100.0%		
Post graduate	16 20.0%	36 45.0%	28 35.0%	80 100.0%		
Professional	16 25.0%	36 56.3%	12 18.8%	64 100.0%		
Total	86 20.7%	218 52.4%	112 26.9%	416 100.0%		

Source: Primary Data

**denotes significant at 5% level*

The null hypothesis cannot be accepted because the P value is less than 0.05 at the 5% level of significance. Therefore, it suggests that there is a significant association between education and the level of anchoring bias with regard to Equity investors in Kerala. Based on the data it can be analyzed that among the investors with qualification of up to HSC, 33.3 per cent of them demonstrating a low level of anchoring bias in the stock market. 55.6 per cent of them demonstrate a moderate level of anchoring bias with regard to their stock market investments, and 11.1 per cent experience a high level of anchoring bias. In the case of investors with qualification of under graduate, 17.8 percent of them experience a low degree of anchoring bias, followed by 53.4 percent who have a moderate level and 28.8 percent who have a high level of anchoring bias towards stock market investments in Kerala. While considering investors who are post graduate, 20 per cent of them experience low level of anchoring bias. 45 per cent exhibit a moderate level of anchoring bias, whereas 35 per cent shows a high level of anchoring bias in relation to stock market investments. In terms of investors with professional qualification, 18.8 per cent having a high level of anchoring bias. 25 per cent of stock market participants have a low level of anchoring bias, whereas 56.3 per cent of participants having a moderate level of anchoring bias.

It can be concluded that investors with qualifications of up to HSE exhibit lower levels of anchoring bias than investors with post graduate degrees, who exhibit higher levels of anchoring bias. Thus, stock market participants in Kerala with post graduate degrees are more likely to exhibit anchoring bias than those with HSE, under graduate, or professional degrees.

H.0:43 There is no significant association between education and the level of availability bias of the Equity investors in Kerala.

Table 5.49

Chi-square test for association between education and the level of availability bias of the Equity investors in Kerala.

Educational qualifications	Level of availability bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	12 33.3%	12 33.3%	12 33.3%	36 100.0%	58.87	<0.001**
Under graduate	38 16.1%	104 44.1%	94 39.8%	236 100.0%		
Post graduate	40 50.0%	36 45.0%	4 5.0%	80 100.0%		
Professional	28 43.8%	20 31.3%	16 25.0%	64 100.0%		
Total	118 28.4%	172 41.3%	126 30.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Because the P value is less than 0.01 at the 1% level of significance, the null hypothesis cannot be accepted. Thus, it reveals that there is a significant association between education and the level of availability bias with regard to Equity investors in Kerala. Based on the data it can be analysed that among the investors with qualification of up to HSC, 33.3 per cent of them display a low level of stock market availability bias. 33.3 per cent of them exhibit moderate availability bias and 33.3 per cent exhibit a high availability bias towards their stock market investments. In the case of investors with qualification of under graduate, 16.1 percent have a low degree of availability bias, 44.1 percent show a moderate level, and 39.8 percent exhibit a high level of availability bias towards stock market investments in Kerala. While considering investors who are post graduate, 50 per cent of them express low-level

availability bias, 45 per cent exhibit a moderate level of availability bias, whereas 5 per cent experience a high level of availability bias in relation to stock market investments. In terms of investors with professional qualification, 25 per cent said they have a high level of availability bias. 43.8 per cent of stock market participants agreed to having a low level of availability bias, while 31.3 per cent having a moderate level of availability bias.

It can be concluded that investors with postgraduate qualifications display lower levels of availability bias, while investors with undergraduate education exhibit higher levels of availability bias. Hence, in Kerala, stock market participants with undergraduate degrees are more likely to demonstrate availability bias than those with HSE, post-graduation and professional degrees.

H.0:44 There is no significant association between education and the level of representativeness bias of the Equity investors in Kerala.

Table 5.50

Chi-square test for association between education and the level of representativeness bias of the Equity investors in Kerala

Educational qualifications	Level of representativeness bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	5 13.8%	15 41.6%	16 44.4%	36 100.0%	22.66	<0.001**
Under graduate	48 20.3%	128 54.2%	60 25.4%	236 100.0%		
Post graduate	8 10.0%	48 60.0%	24 30.0%	80 100.0%		
Professional	16 25.0%	40 62.5%	8 12.5%	64 100.0%		
Total	77 18.5%	231 55.5%	108 26.0%	416 100.0%		

Source: Primary Data

**denotes significant at 1% level

Since the P value is less than 0.01, so the null hypothesis is rejected at 1% significant level. Thus, it reveals that there is a significant association between education and the level of representativeness bias with regard to Equity investors in Kerala. Based on the data it can be analysed that among the investors with qualification of up to HSC, 13.8 per cent of them experience there is a low level of stock market representativeness bias. 41.6 per cent of them exhibit moderate level of representativeness bias and 44.4 per cent exhibit high representativeness bias towards their stock market investments. In the case of investors with qualification of under graduate, 20.3 percent have a low degree of representativeness bias, 54.2 percent show a moderate level, and 25.4 percent exhibit a high level of representativeness bias towards stock market investments in Kerala. While considering investors who are post graduate, 10 per cent of them have low level representativeness bias based on their stock market investments. 60 per cent exhibit a moderate level of representativeness bias, whereas 30 per cent experience a high level of representativeness bias in relation to stock market investments. In terms of investors with professional qualification, 12.5 per cent exhibit a high level of representativeness bias. 25 per cent of stock market participants having a low level of representativeness bias, while 62.5 per cent having a moderate level of representativeness bias.

It can be concluded that low level of representativeness bias is more frequent among investors with professional qualification while, high level representativeness bias is more common among investors with qualification of up to HSE. Hence, in Kerala, stock market participants with qualification of up to HSE are more likely to demonstrate representativeness bias than those with under graduate, post-graduation and professional degrees.

H.0:45 There is no significant association between education and the level of cognitive dissonance bias with regard to Equity investors in Kerala.

Table 5.51

Chi-square test for association between education and the level of cognitive dissonance bias with regard to Equity investors in Kerala

Educational qualifications	Level of cognitive dissonance bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	4 11.1%	20 55.6%	12 33.3%	36 100.0%	10.34	0.111 ^{NS}
Under graduate	40 16.9%	108 45.8%	88 37.3%	236 100.0%		
Post graduate	24 30.0%	36 45.0%	20 25.0%	80 100.0%		
Professional	12 18.8%	32 50.0%	20 31.3%	64 100.0%		
Total	80 19.2%	196 47.1%	140 33.7%	416 100.0%		

Source: Primary Data

NS denotes Not Significant level

The null hypothesis is accepted, since the P value is greater than 0.05. So, it can be concluded that, there is no significant association between education and level of cognitive dissonance bias of the Equity investors in Kerala.

H.0:46 There is no significant association between education and the level of loss aversion bias of the Equity investors in Kerala.

Table 5.52

Chi-square test for association between education and the level of loss aversion bias of the Equity investors in Kerala

Educational qualifications	Level of loss aversion bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	20	4	12	36	35.76	<0.001**
	55.6%	11.1%	33.3%	100.0%		
Under graduate	48	86	102	236		
	20.3%	36.4%	43.2%	100.0%		
Post graduate	20	36	24	80		
	25.0%	45.0%	30.0%	100.0%		
Professional	20	32	12	64		
	31.3%	50.0%	18.8%	100.0%		
Total	108	158	150	416		
	26.0%	38.0%	36.1%	100.0%		

Source: Primary Data

** denotes significant at 1% level

Since the P value is less than 0.01, so the null hypothesis is rejected at 1% significant level. Thus, it reveals that there is a significant association between education and the level of loss aversion bias with regard to Equity investors in Kerala. Based on the data it can be analysed that among the investors with qualification of up to HSC, 55.6 per cent of them demonstrate low level of loss aversion bias towards stock market investments. 11.1 per cent of them exhibit moderate level of loss aversion bias and 33.3 per cent exhibit a high-level of loss aversion bias towards their stock market investments. In the case of investors with qualification of under graduate, 20.3 per cent have a low degree of loss aversion bias, 36.4 per cent show a moderate level, and 43.2 per cent exhibit a high level of loss aversion bias towards stock market investments in Kerala. While considering investors who are post graduate, 25 per cent of them experience a low level of loss aversion bias in relation to stock market

investments. 45 per cent exhibit a moderate level of loss aversion bias, whereas 30 per cent experience a high level of loss aversion bias regarding stock market investments. In terms of investors with professional qualification, 31.3 per cent have a low level of loss aversion bias. 50 per cent of stock market participants having a moderate level of loss aversion bias, while 18.8 per cent having a high level of loss aversion bias.

It can be concluded that low level of loss aversion bias is more frequent among investors with qualification of up to HSE while, high level loss aversion bias is more common among investors with qualification of under graduate. Hence, in Kerala, stock market participants with qualification of under graduate are more likely to demonstrate loss aversion bias than those with qualification of up to HSE, post-graduation and professional degrees.

5.4.2.4 Behavioural biases across annual income of the investors

H.0:47 There is no significant association between annual income and the level of overconfidence bias of the Equity investors in Kerala.

Table 5.53

Chi-square test for association between annual income and the level of overconfidence bias of the Equity investors in Kerala

Annual income	Level of overconfidence bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	42 29.6%	72 50.7%	28 19.7%	142 100.0%	48.08	<0.001**
5,00,001 to 10,00,000	52 34.2%	56 36.8%	44 28.9%	152 100.0%		
10,00,001 to 15,00,000	12 15.8%	40 52.6%	24 31.6%	76 100.0%		
Above 15,00,000	12 26.1%	4 8.7%	30 65.2%	46 100.0%		
Total	118 28.4%	172 41.3%	126 30.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Since the P value is less than 0.01 at the 1% level of significance, the null hypothesis is denied. It reveals that there is a significant connection between annual income and the degree of overconfidence bias among investors in the Kerala stock market. Using the data, it can be determined that among the investors with annual income of up to 5,00,000, a low level of overconfidence bias is shown by 29.6 per cent of them with regard to their stock market investments, a moderate level by 50.7 per cent, and a high level by 19.7 per cent. In the case of investors with annual income of 5,00,001 to 10,00,000, 34.2 per cent of them exhibit a low level of overconfidence bias with relation to their stock market investments. 28.9 percent and 36.8 percent, respectively, express high and moderate overconfidence bias with regard to stock market investing. While considering investors with annual income of 10,00,001 to 15,00,000, a low level of overconfidence bias on their stock market investments is displayed by 15.8 percent of them. 52.6 per cent of respondents demonstrated a moderate overconfidence bias in their stock market investments, while 31.6 per cent, have a high level of this bias. In terms of investors with annual income of above 15,00,000, 26.1 percent of respondents have low level of overconfidence bias. Compared to 8.7 per cent who have a moderate level, 65.2 per cent of stock market participants have a high level of overconfidence bias.

It can be said that investors with annual income of 5,00,001 to 10,00,000 are more likely to express low-level overconfidence bias, whilst investors with annual income of above 15,00,000 are more likely to display high-level overconfidence bias. Therefore, in Kerala, stock market participants with yearly incomes above 15,00,000 are more prone to overconfidence bias than those with annual incomes of up to 5,00,000, 5,00,001 to 10,00,000, and 10,00,001 to 15,00,000, respectively.

H.0:48 There is no significant association between annual income and the level of herd bias of the Equity investors in Kerala.

Table 5.54

Chi-square test for association between annual income and the level of herd bias of the Equity investors in Kerala

Annual income	Level of herd bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	32 22.5%	52 36.6%	58 40.8%	142 100.0%	17.57	0.007**
5,00,001 to 10,00,000	56 36.8%	38 25.0%	58 38.2%	152 100.0%		
10,00,001 to 15,00,000	32 42.1%	28 36.8%	16 21.1%	76 100.0%		
Above 15,00,000	12 26.1%	16 34.8%	18 39.1%	46 100.0%		
Total	128 30.8%	138 33.2%	150 36.1%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Given the P value is less than 0.01 at the 1% level of significance, the null hypothesis is disproved. It suggests that there is a significant connection between annual income and the degree of herd bias among investors in the Kerala stock market. Using the data, it can be determined that among the investors with annual income of up to 5,00,000, A low level of herd bias is present in 22.5 percent of them with regard to their stock market investments, a moderate level in 36.6 percent, and a high level in 40.8 percent. In the case of investors with annual income of 5,00,001 to 10,00,000, 36.8 per cent of them exhibit a low level of herd bias with relation to their stock market investments. 38.2 percent and 25 percent, respectively, express high and moderate herd bias with regard to stock market investing. While considering investors with annual income of 10,00,001 to 15,00,000, a low level of herd bias on their stock

market investments is displayed by 42.1 per cent of them. 36.8 per cent of respondents demonstrated a moderate herd bias in their stock market investments, while 21.1 per cent, have a high level of this bias. In terms of investors with annual income of above 15,00,000, 26.1 per cent of respondents have low level of herd bias. Compared to 34.8 per cent who have a moderate level, 39.1 per cent of stock market participants have a high level of herd bias.

It can be said that investors with annual income of 10,00,001 to 15,00,000 are more likely to express low-level herd bias, whilst investors with annual income of up to 5,00,000 are more likely to display high-level herd bias. Therefore, in Kerala, stock market participants with yearly incomes up to 5,00,000 are more prone to herd bias than those with annual incomes of 5,00,001 to 10,00,000, and 10,00,001 to 15,00,000, and above 15,00,000.

H.0:49 There is no significant association between annual income and the level of anchoring bias with regard to Equity investors in Kerala.

Table 5.55

Chi-square test for association between annual income and the level of anchoring bias with regard to Equity investors in Kerala

Annual income	Level of anchoring bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	22 15.5%	88 62.0%	32 22.5%	142 100.0%	65.08	<0.001**
5,00,001 to 10,00,000	32 21.0%	80 52.6%	40 26.3%	152 100.0%		
10,00,001 to 15,00,000	28 36.8%	40 52.6%	8 10.5%	76 100.0%		
Above 15,00,000	4 8.7%	10 21.7%	32 69.6%	46 100.0%		
Total	86 20.7%	218 52.4%	112 26.9%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The null hypothesis is invalidated since the P value at the 1% level of significance is less than 0.01. It suggests that there is a significant connection between annual income and the level of anchoring bias among investors in the Kerala stock market. Using the data, it can be determined that among the investors with annual income of up to 5,00,000, a low level of anchoring bias is present in 15.5 percent of them with regard to their stock market investments, a moderate level in 62 per cent, and a high level in 22.5 percent. In the case of investors with annual income of 5,00,001 to 10,00,000, 21 per cent of them exhibit a low anchoring bias with relation to their stock market investments. 26.3 percent and 52.6percent, respectively, express high and moderate anchoring bias with regard to stock market investing. While considering investors with annual income of 10,00,001 to 15,00,000, a low level of anchoring bias on their stock market investments is experienced by 36.8 per cent of them. 52.6 per cent of respondents demonstrated a moderate anchoring bias in their stock market investments, while 10.5per cent, have a high level of this bias. In terms of investors with annual income of above 15,00,000, 8.7 per cent of respondents have low anchoring bias. Compared to 21.7 per cent have a moderate level, 69.6 per cent of stock market participants have a high level of anchoring bias.

It can be said that investors with annual income of 10,00,001 to 15,00,000 are more likely to express low-level anchoring bias, whilst investors with annual income of above 5,00,000 are more likely to display high-level anchoring bias. Therefore, in Kerala, stock market participants with yearly incomes above 15,00,000 are more prone to anchoring bias than those with annual incomes of up to 5,00,000, 5,00,001 to 10,00,000, and 10,00,001 to 15,00,000.

H.0:50 There is no significant association between annual income and the level of availability bias of the Equity investors in Kerala.

Table 5.56

Chi-square test for association between annual income and the level of availability bias of the Equity investors in Kerala

Annual income	Level of availability bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	36 25.4%	44 31.0%	62 43.7%	142 100.0%	38.16	<0.001**
5,00,001 to 10,00,000	48 31.6%	64 42.1%	40 26.3%	152 100.0%		
10,00,001 to 15,00,000	12 15.8%	48 63.2%	16 21.1%	76 100.0%		
Above 15,00,000	22 47.8%	16 34.8%	8 17.4%	46 100.0%		
Total	118 28.4%	172 41.3%	126 30.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The null hypothesis is disproved since the P value is less than 0.01 at the 1% level of significance. It suggests that there is a significant connection between annual income and the level of availability bias among investors in the Kerala stock market. It can be determined using the information that among the investors with annual income of up to 5,00,000, 25.4 per cent experience a low level of availability bias, 31 per cent show a moderate level, and 43.7 per cent have a high level. In the case of investors with annual income of 5,00,001 to 10,00,000, a low -level availability bias is present in 31.6 per cent of stock market investments. High and moderate availability bias are shown with reference to stock market investing by 26.3 per cent and 42.1 per cent of investors, respectively. While considering investors with annual income of 10,00,001 to 15,00,000, 15.8 per cent of them having a low level of availability bias in their stock

market investments. 63.2 per cent of respondents exhibited a moderate availability bias, while 21.1 per cent reported a strong availability bias in terms of stock market investments. In terms of investors with annual income of above 15,00,000, 47.8 percent of respondents experiencing less availability bias. In comparison to 34.8 percent who expressed a moderate degree, 17.4 percent of stock market participants expressed a high level of availability bias.

Investors with annual incomes above 15,00,000 are more likely to exhibit low-level availability bias, whereas those with annual incomes up to 5,00,000 are more likely to exhibit high-level availability bias, it can be asserted. As a result, in Kerala, stock market participants with annual incomes up to 5,00,000 are more susceptible to availability bias than those with annual incomes of 5,00,001 to 10,00,000, and 10,00,001 to 15,00,000, and above 15,00,000.

H.0:51 There is no significant association between annual income and the level of representativeness bias of the Equity investors in Kerala.

Table 5.57

Chi-square test for association between annual income and the level of representativeness bias of the Equity investors in Kerala

Annual income	Level of representativeness bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	34 23.9%	84 59.2%	24 16.9%	142 100.0%	22.16	0.001**
5,00,001 to 10,00,000	16 10.5%	84 55.3%	52 34.2%	152 100.0%		
10,00,001 to 15,00,000	16 21.1%	36 47.4%	24 31.6%	76 100.0%		
Above 15,00,000	6 13.0%	32 69.6%	8 17.4%	46 100.0%		
Total	72 17.3%	236 56.7%	108 26.0%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The null hypothesis is disproved since the P value is less than 0.01 at the 1% level of significance. It implies that there is a significant correlation between annual income and the amount of representativeness bias among Kerala Equity investors . It is possible to determine using information that among the investors with annual income of up to 5,00,000, 23.9 percent demonstrated a low levels of representativeness bias, 59.2 percent have moderate levels, and 16.9 percent express high levels. In the case of investors with annual income of 5,00,001 to 10,00,000, 10.5 percent of stock market investments exhibit a low representativeness bias. 34.2 per cent and 55.3 per cent of investors, respectively, have a high and moderate representativeness bias when it comes to stock market investing. While considering investors with annual income of 10,00,001 to 15,00,000, 21.1 percent having a low level of representativeness bias in their stock market investments. 47.4 per cent of respondents exhibited a moderate representativeness bias, while 31.6 per cent expressed a high representativeness bias in terms of stock market investments. In terms of investors with annual income of above 15,00,000, 13 percent of respondents experiencing low representativeness bias. Compared to 69.6 per cent who have a moderate level, 17.4 per cent of stock market participants have a high level of representativeness bias.

Investors with yearly incomes of up to 500,000 are more likely to display low-level representativeness bias, whereas those with annual incomes of 500,000 to 1,000,000 are more likely to demonstrate high-level representativeness bias, according to study. As a result, in Kerala, stock market participants with annual incomes 5,00,001 to 10,00,000 are more susceptible to representativeness bias than those with annual incomes of up to 5,00,000, 10,00,001 to 15,00,000, and above 15,00,000.

H.0: 52 There is no significant association between annual income and the level of cognitive dissonance bias of the Equity investors in Kerala.

Table 5.58

Chi-square test for association between annual income and the level of cognitive dissonance bias of the Equity investors in Kerala

Annual income	Level of cognitive dissonance bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	36 25.4%	66 46.5%	40 28.2%	142 100.0%	24.44	<0.001**
5,00,001 to 10,00,000	16 10.5%	72 47.4%	64 42.1%	152 100.0%		
10,00,001 to 15,00,000	24 31.6%	32 42.1%	20 26.3%	76 100.0%		
Above 15,00,000	4 8.7%	26 56.5%	16 34.8%	46 100.0%		
Total	80 19.2%	196 47.1%	140 33.7%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Because the P value is less than 0.01 at the 1% level of significance, the null hypothesis is rejected. It indicates that there is a significant correlation between annual income and the level of cognitive dissonance bias among Kerala Equity investors. It is possible to determine using information that among the investors with annual income of up to 5,00,000, 25.4 per cent report low levels of cognitive dissonance bias, 46.5 per cent have moderate levels, and 28.2 per cent express high levels. In the case of investors with annual income of 5,00,001 to 10,00,000, 10.5 percent of stock market investments exhibit a low cognitive dissonance bias. 42.1 per cent and 47.4 per cent of investors, respectively, have a high and moderate cognitive dissonance bias when it comes to stock market investing. While considering investors with annual income of 10,00,001 to 15,00,000, 31.6 percent having a low level of cognitive

dissonance bias in their stock market investments. 42.1 per cent of respondents exhibited a moderate cognitive dissonance bias, while 26.3 per cent exhibited a high cognitive dissonance bias in terms of stock market investments. In terms of investors with annual income of above 15,00,000, 8.7 percent of respondents experiencing less cognitive dissonance bias. 56.5 per cent express a moderate level of cognitive dissonance bias, while 34.8 per cent of stock market participants have a high level of cognitive dissonance bias.

Low level of cognitive dissonance bias is more prevalent among investors with annual income of 10,00,001 to 15,00,000, at the same time high level cognitive dissonance bias is more frequent among investors with yearly income of 5,00,001 to 10,00,000. As a result, in Kerala, stock market participants with annual incomes 5,00,001 to 10,00,000 are more susceptible to cognitive dissonance bias than those with annual incomes of up to 5,00,000, 10,00,001 to 15,00,000, and above 15,00,000.

H.0:53 There is no significant association between annual income and the level of loss aversion bias of the Equity investors in Kerala.

Table 5.59

Chi-square test for association between annual income and the level of loss aversion bias of the Equity investors in Kerala

Annual income	Level of loss aversion bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	36 25.4%	56 39.4%	50 35.2%	142 100.0%	30.42	<0.001**
5,00,001 to 10,00,000	24 15.8%	64 42.1%	64 42.1%	152 100.0%		
10,00,001 to 15,00,000	36 47.4%	16 21.1%	24 31.6%	76 100.0%		
Above 15,00,000	12 26.1%	22 47.8%	12 26.1%	46 100.0%		
Total	108 26.0%	158 38.0%	150 36.1%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Considering the P value is less than 0.01 at the 1% level of significance, the null hypothesis is discarded. It appears that among stock market participants in Kerala, there is a significant relationship between annual income and the degree of loss aversion bias. It is possible to determine using information that among the investors with annual income of up to 5,00,000, 35.2 per cent exhibit high levels, 39.4 per cent at moderate levels, and 25.4 per cent expressed low levels of loss aversion bias. In the case of investors with annual income of 5,00,001 to 10,00,000, 15.8 per cent of investors in the stock market display a low level of loss aversion bias. Though 42.1 percent of investors showing a moderate level of loss aversion bias, 42.1 per cent expressed a high level of loss aversion bias with respect to stock market. While considering investors with annual income of 10,00,001 to 15,00,000, a low level of loss aversion bias in their stock market investments has been experienced by 47.4 per cent of investors. A moderate loss aversion bias was present in 21.1 per cent of respondents, whereas a high level of loss aversion bias was demonstrated by 31.6 per cent regarding of stock market investments. In terms of investors with annual income of above 15,00,000, 26.1 per cent of respondents experiencing low level of loss aversion bias. 47.8 per cent express a moderate level of loss aversion bias, while 26.1 per cent of stock market participants have a high level of loss aversion bias.

Investors with annual incomes of 10,00,001 to 15,00,000 are more likely to have low level loss aversion bias, whereas those with annual incomes of 5,00,001 to 10,00,000 are more likely to have high level loss aversion bias. Because of this, stock market participants in Kerala with annual incomes between 5,00,001 to 10,00,000 are more likely to exhibit loss aversion bias than those with annual incomes up to 5,00,000, 10,00,001 to 15,00,000, and above 15,00,000.

5.4.2.5 Behavioural biases across stock trading experience of the investors

H.0:54 There is no significant association between experience and the level of overconfidence bias of the Equity investors in Kerala.

Table 5.60

Chi-square test for association between experience and the level of overconfidence bias of the Equity investors in Kerala

Investment Experience of the investors	Level of overconfidence bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	12 14.6%	40 48.8%	30 36.6%	82 100.0%	35.69	<0.001**
1 to 3 years	44 32.4%	52 38.2%	40 29.4%	136 100.0%		
3 to 6 years	36 33.3%	52 48.1%	20 18.5%	108 100.0%		
6 to 9 years	22 42.3%	16 30.8%	14 26.9%	52 100.0%		
Above 9 years	4 10.5%	12 31.6%	22 57.9%	38 100.0%		
Total	118 28.4%	172 41.3%	126 30.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Because the P value is less than 0.01 at the 1% level of significance, the null hypothesis is rejected. Experience and the level of overconfidence bias among Kerala's stock market participants appear to be significantly correlated. With the information provided, one can determine that among the investors with experience of up to 1 year, 14.6 percent express overconfidence bias at a low level, 48.8 percent at a moderate level, and 36.6 percent at a high level with respect to stock market investments. In the case of investors with experience of 1 to 3 years, a low level of

overconfidence bias towards the stock market has been expressed by 32.4 per cent of investors. 38.2 per cent and 29.4 per cent of investors, respectively, showed moderate and high degrees of overconfidence bias with regard to stock market investment. While considering investors with experience of 3 to 6 years, 33.3 per cent of investors have low level of overconfidence bias when making stock market investments. 18.5 percent of respondents expressed high overconfidence bias, while 48.1 percent expressed moderate level of overconfidence bias regarding stock market investments. In terms of investors with experience of 6 to 9 years, a high degree of overconfidence bias is expressed by 26.9 per cent of stock market participants, compared to lower overconfidence bias by 42.3 per cent of respondents, and moderate level of overconfidence bias by 30.8 per cent of respondents. While considering the investors with experience of above 9 years, 10.5 per cent of investors show a low level of overconfidence bias, followed by 31.6 per cent at a moderate level and 57.9 per cent at a high level in relation to stock market investments.

Investors with 6 to 9 years of experience, exhibit lower levels of overconfidence bias, yet those with experience of more than 9 years are more likely to show high levels of overconfidence bias in their stock market investments. Therefore, compared to investors with experience of up to one year, one to three years, three to six years, and six to nine years, stock market traders in Kerala with experience of more than nine years have higher levels of overconfidence bias.

H.0:55 There is no significant association between experience and the level of herd bias of the Equity investors in Kerala.

Table 5.61

Chi-square test for association between experience and the level of herd bias of the Equity investors in Kerala

Investment Experience of the investors	Level of herd bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	12 14.6%	40 48.8%	30 36.6%	82 100.0%	72.26	<0.001**
1 to 3 years	24 17.6%	64 47.1%	48 35.3%	136 100.0%		
3 to 6 years	60 55.6%	16 14.8%	32 29.6%	108 100.0%		
6 to 9 years	16 30.8%	14 26.9%	22 42.3%	52 100.0%		
Above 9 years	16 42.1%	4 10.5%	18 47.4%	38 100.0%		
Total	128 30.8%	138 33.2%	150 36.1%	416 100.0%		

Source: Primary Data

*** denotes significant at 1% level*

Given that the P value at the 1% level of significance is less than 0.01 the null hypothesis is disregarded. In Kerala's stock market, there appears to be a significant connection between experience and the degree of herd bias. Using the information presented, one can determine that among the investors with experience of up to 1 year, 14.6 per cent, 48.8 per cent, and 36.6 per cent of respondents exhibit low, moderate, and high levels of herd bias, respectively regarding stock market investments. In the case of investors with experience of 1 to 3 years, 17.6 per cent of investors showed

only a low level of herd bias in regards to the stock market. 47.1 per cent and 35.3 per cent of investors experiencing moderate and high levels of herd bias, respectively regarding their investments in stock market. While considering investors with experience of 3 to 6 years, 55.6 per cent of investors have little herd bias when making stock market investments. 14.8 percent of respondents expressed moderate herd bias, while 29.6 percent expressed high level of herd bias regarding stock market investments. In terms of investors with experience of 6 to 9 years, a high degree of herd bias is expressed by 42.3 per cent of stock market participants, compared to lower herd bias by 30.8 per cent of respondents, and moderate level of herd bias by 26.9 per cent of respondents. While considering the investors with experience of above 9 years, 42.1 per cent of investors show a low level of herd bias, followed by 10.5 per cent at a moderate level and 47.4 per cent at a high level in relation to stock market investments.

Investors with experience of more than 9 years are more likely to suffer high levels of herd bias in their stock market investments while those with 3 to 6 years of experience demonstrate lower levels of herd bias. As a result, stock market traders in Kerala with experience of more than nine years exhibit higher levels of herd bias than investors with experience of up to one year, one to three years, three to six years, and six to nine years.

H.0:56 There is no significant association between experience and the level of anchoring bias of the Equity investors in Kerala.

Table 5.62

Chi-square test for association between experience and the level of anchoring bias of the Equity investors in Kerala

Investment Experience of the investors	Level of anchoring bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	5 6.0%	41 50%	36 43.9%	82 100.0%	62.08	<0.001**
1 to 3 years	52 38.2%	56 41.2%	28 20.6%	136 100.0%		
3 to 6 years	16 14.8%	64 59.3%	28 25.9%	108 100.0%		
6 to 9 years	8 15.4%	36 69.2%	8 15.4%	52 100.0%		
Above 9 years	10 26.3%	16 42.1%	12 31.6%	38 100.0%		
Total	91 21.8%	213 51.2%	112 26.9%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The P value is less than 0.01 at the 1% level of significance, refuting the null hypothesis. In stock market, there appears to be a significant relationship between experience and the level of anchoring bias. Based on the data it can be observed that among the investors with experience of up to 1 year, 6 per cent, 50 per cent, and 43.9 per cent of respondents exhibit low, moderate, and high levels of anchoring bias, respectively regarding stock market investments. In the case of investors with experience of 1 to 3 years, 38.2 per cent of investors having low level of anchoring bias in the stock market. Rates for investors with, moderate, and high anchoring bias are 41.2 per cent and 20.6 per cent, respectively based on stock market investments.

While considering investors with experience of 3 to 6 years, 14.8 per cent of investors have low level anchoring bias when making stock market investments. 59.3 per cent of respondents expressed moderate anchoring bias, while 25.9 per cent expressed high level of anchoring bias regarding stock market investments. In terms of investors with experience of 6 to 9 years, a high degree of anchoring bias is expressed by 15.4 per cent of stock market participants, compared to lower anchoring bias by 15.4 per cent of respondents, and moderate level of anchoring bias by 69.2 per cent of respondents. While considering the investors with experience of above 9 years, a low degree of anchoring bias is demonstrated by 26.3 per cent of investors, followed by a moderate level by 42.1 per cent and a high level by 31.6 per cent of investors in relation to stock market investments.

Investors who have between one and three years of experience are more likely to show low levels of anchoring bias in their stock market investments, whereas those who have up to one year of experience do so at a higher level. As a result, compared to investors with experience of one to three years, three to six years, and six to nine years, stock market traders in Kerala with experience of up to one year show higher levels of anchoring bias.

H.0:57 There is no significant association between experience and the level of availability bias of the Equity investors in Kerala.

Table 5.63

Chi-square test for association between experience and the level of availability bias of the Equity investors in Kerala

Investment Experience of the investors	Level of availability bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	34	32	16	82	32.65	<0.001**
	41.5%	39.0%	19.5%	100.0%		
1 to 3 years	40	48	48	136		
	29.4%	35.3%	35.3%	100.0%		
3 to 6 years	28	44	36	108		
	25.9%	40.7%	33.3%	100.0%		
6 to 9 years	16	28	8	52		
	30.8%	53.8%	15.4%	100.0%		
Above 9 years	5	15	18	38		
	13.1%	39.4%	47.4%	100.0%		
Total	123	167	126	416		
	29.5%	40.1%	30.3%	100.0%		

Source: Primary Data

** denotes significant at 1% level

Since the P value is less than 0.01, so refuted the null hypothesis. It denotes, there appears to be a significant association between experience and the level of availability bias. Based on the data it can be observed that among the investors with experience of up to 1 year, 41.5 per cent of respondents exhibit low level of availability bias, 39 per cent exhibit moderate level, and 19.5 per cent expressing high level of such bias regarding stock market investments. In the case of investors with experience of 1 to 3 years, a low- level availability bias in the stock market was experienced by 29.4 per cent of investors. While 35.3 per cent expressed a moderate level of availability bias, and 35.3 per cent demonstrated a high amount of it based on stock market

investments. While considering investors with experience of 3 to 6 years, 25.9 per cent of investors reported to have low level availability bias when making stock market investments. A moderate amount of availability bias was reported by 40.7 per cent of respondents, while a high level of availability bias was reported by 33.3 per cent of respondents regarding stock market investments. In terms of investors with experience of 6 to 9 years, a high degree of availability bias is expressed by 15.4 per cent of stock market participants, compared to lower availability bias by 30.8 per cent of respondents, and moderate level of availability bias by 53.8 per cent of respondents. While considering the investors with experience of above 9 years, A low degree of availability bias is demonstrated by 13.1 per cent of investors, followed by a moderate level by 39.4 per cent and a high level by 47.4 per cent of investors in relation to stock market investments.

Low level of availability bias is more frequent among investors who have the experience of up to 1 year, while high level availability bias is more common among investors with experience of above 9 years. As a result, compared to investors with experience of up to one year, one to three years, three to six years, six to nine years, stock market traders in Kerala with experience of more than 9 year show higher levels of availability bias

H.0:58 There is no significant association between experience and the level of representativeness bias of the Equity investors in Kerala.

Table 5.64

Chi-square test for association between experience and the level of representativeness bias of the Equity investors in Kerala

Investment Experience of the investors	Level of representativeness bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	18 22.0%	60 73.2%	4 4.9%	82 100.0%	92.81	<0.001**
1 to 3 years	4 2.9%	76 55.9%	56 41.2%	136 100.0%		
3 to 6 years	20 18.5%	56 51.9%	32 29.6%	108 100.0%		
6 to 9 years	8 15.4%	32 61.5%	12 23.1%	52 100.0%		
Above 9 years	22 57.9%	12 31.6%	4 10.5%	38 100.0%		
Total	72 17.3%	236 56.7%	108 26.0%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Given that the P value at the 1% level of significance is less than 0.01 the null hypothesis is disregarded. Among Equity investors, there appears to be a significant connection between experience and the degree of representativeness bias. Using the information presented, one can determine that among the investors with experience of up to 1 year, 22 per cent, 73.2 per cent, and 4.9 per cent of respondents exhibit low, moderate, and high levels of representativeness bias, respectively regarding stock market investments. In the case of investors with experience of 1 to 3 years, 2.9 per cent of investors showed only a minimal amount of representativeness bias in regards

to the stock market. 55.9 per cent and 41.2 per cent of investors experiencing moderate and extreme representativeness bias, respectively regarding their investments in stock market. While considering investors with experience of 3 to 6 years, 18.5 per cent of investors have low level of representativeness bias when making stock market investments. 51.9 per cent of respondents expressed moderate representativeness bias, while 29.6 per cent expressed high level of representativeness bias regarding stock market investments. In terms of investors with experience of 6 to 9 years, a high degree of representativeness bias is expressed by 23.1 per cent of stock market participants, compared to lower representativeness bias by 15.4 per cent of respondents, and moderate level of representativeness bias by 61.5 per cent of respondents. While considering the investors with experience of above 9 years, 57.9 per cent of investors show a low level of representativeness bias, followed by 31.6 per cent at a moderate level and 10.5 per cent at a high level in relation to stock market investments.

Investors with experience of more than 9 years are more likely to suffer low levels of representativeness bias in their stock market investments while those with 1 to 3 years of experience demonstrate high levels of representativeness bias. As a result, stock market traders in Kerala with experience of 1 to 3 years exhibit higher levels of representativeness bias than investors with experience of up to one year, three to six years, and six to nine years and more than nine years.

H.0:59 There is no significant association between experience and the level of cognitive dissonance bias of the Equity investors in Kerala.

Table 5.65

Chi-square test for association between experience and the level of cognitive dissonance bias of the Equity investors in Kerala

Investment Experience of the investors	Level of cognitive dissonance bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	16 19.5%	38 46.3%	28 34.1%	82 100.0%	14.07	0.080 ^{NS}
1 to 3 years	28 20.6%	56 41.2%	52 38.2%	136 100.0%		
3 to 6 years	12 11.1%	64 59.3%	32 29.6%	108 100.0%		
6 to 9 years	12 23.1%	24 46.2%	16 30.8%	52 100.0%		
Above 9 years	12 31.6%	14 36.8%	12 31.6%	38 100.0%		
Total	80 19.2%	196 47.1%	140 33.7%	416 100.0%		

Source: Primary Data

^{NS} denotes Not Significant level

Since the P value is more than 0.05, hence the null hypothesis is accepted. It specifies that there is no significant association between experience and the level of cognitive dissonance bias with regard to Equity investors in Kerala.

H.0:60 There is no significant association between experience and the level of loss aversion bias of the Equity investors in Kerala.

Table 5.66

Chi-square test for association between experience and the level of loss aversion bias of the Equity investors in Kerala

Investment Experience of the investors	Level of loss aversion bias			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	20	46	16	82	24.20	0.002**
	24.4%	56.1%	19.5%	100.0%		
1 to 3 years	40	48	48	136		
	29.4%	35.3%	35.3%	100.0%		
3 to 6 years	24	40	44	108		
	22.2%	37.0%	40.7%	100.0%		
6 to 9 years	12	12	28	52		
	23.1%	23.1%	53.8%	100.0%		
Above 9 years	12	12	14	38		
	31.6%	31.6%	36.8%	100.0%		
Total	108	158	150	416		
	26.0%	38.0%	36.1%	100.0%		

Source: Primary Data

** denotes significant at 1% level

Since the P value is less than 0.01, so refuted the null hypothesis. Among stock market investors, there appears to be a significant association between experience and the level of loss aversion bias. Based on the data it can be observed that among the investors with experience of up to 1 year, 24.4 per cent of respondents exhibit low

level of loss aversion bias, 56.1 per cent exhibit moderate level, and 19.5 per cent expressing high level of such bias regarding stock market investments. In the case of investors with experience of 1 to 3 years, a low-level loss aversion bias in the stock market was detected among 29.4 per cent of investors. While 35.3 per cent displayed a moderate level of loss aversion bias, 35.3 per cent expressed a high amount of it based on stock market investments. While considering investors with experience of 3 to 6 years, 22.2 per cent of investors experienced to have low level of loss aversion bias when making stock market investments. A moderate amount of loss aversion bias was reported by 37 per cent of respondents, while a high level of loss aversion bias was reported by 40.7 per cent of respondents regarding stock market investments. In terms of investors with experience of 6 to 9 years, a low degree of loss aversion bias is expressed by 23.1 per cent of stock market participants, compared to moderate level of loss aversion bias by 23.1 per cent of respondents, and higher level of loss aversion bias by 53.8 per cent of respondents. While considering the investors with experience of above 9 years, a low degree of loss aversion bias is demonstrated by 31.6 per cent of investors, followed by a moderate level by 31.6 per cent and a high level by 36.8 per cent of investors in relation to stock market investments.

Low level of loss aversion bias is more frequent among investors who have the experience of above 9 years, while high level loss aversion bias is more common among investors with experience of 6 to 9 years. From this, it can be inferred that compared to investors with experience of up to one year, one to three years, three to six years, and above 9 years, stock market traders in Kerala with experience of 6 to 9 years show higher levels of loss aversion bias.

5.5 Conclusions

This section addressed the second goal of the study, which was to determine the extent to which Equity investors in Kerala exhibit behavioural biases and the extent to which these biases vary depending on the investors' socioeconomic status. The investors'

behavioural biases included factors like overconfidence, herding, anchoring, availability, representative, cognitive dissonance, and loss aversion. Variables such as respondents' gender, age, level of education, place of residence, annual income, and level of share-trading experience were collected for use in a cross-sectional analysis.

Chapter 6

Emotional Intelligence, Behavioral Biases and Investment Performance of Equity Investors in Kerala

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6.1 INTRODUCTION

The first part of this chapter pertains to the third objective of the research, which is to investigate the mediating effects of behavioural biases in the relationship between the emotional intelligence of Equity investors and their investment performance. Utilising Covariance Based Confirmatory Factor Analysis (CB-CFA) and Structural Equation Modelling (SEM) techniques enabled the achievement of this objective. This chapter is divided into two distinct sections. The first part of this study focuses on the application of Co-variance Based Confirmatory Factor Analysis (CB-CFA), whereas the second part is devoted to the application of Structural Equation Modelling (SEM) techniques. This chapter provides a summary of the techniques utilized in Structural Equation Modelling (SEM). The chapter concludes with a summary of testing hypotheses.

Part A

Objective III: To examine the mediating effects of behavioural biases in the relationship between emotional intelligence and investment performance.

The research utilised Covariance Based Confirmatory Factor Analysis (CB-CFA) and Structural Equation Modelling (SEM) techniques, supported by the IBM SPSS AMOS Graphics 21 software application, to achieve the intended objective.

SECTION – A

6.2 CO-VARIANCE BASED STRUCTURAL EQUATION MODELING FOR STOCK MARKET INVESTMENT IN KERALA

6.2.1 Co-variance Based Structural Equation Modeling techniques

Structural Equation Modelling (SEM) is a statistical technique that is utilised to investigate the structural relationships among multiple variables. This approach integrates the methodologies of factor analysis and multiple regression analysis. This approach has been preferred by numerous researchers due to its ability to estimate multiple and interrelated dependencies within a single analysis. The methodology in question predominantly utilises two distinct categories of variables, namely endogenous variables (which are reliant on other variables) and exogenous variables (which are not influenced by other variables). Covariance Based Structural Equation Modelling is a confirmatory statistical technique that is commonly employed for the purpose of hypothesis testing and the evaluation of a structural theory related to a particular phenomenon. The structural equation modelling (SEM) technique employed in this study was executed through the utilization of the IBM SPSS AMOS 21 software package.

The present section pertains to the formulation of a Structural Equation Model (SEM) for the purpose of analyzing stock market investment in the state of Kerala. In order to conduct the study, a set of twenty-two hypotheses will be examined.

Table 6.1

The Hypotheses for model building

SI. No.	Hypotheses
SM.H1	Emotional intelligence has a positive effect on investment performance.
SM.H2	Emotional intelligence has a negative effect on anchoring bias
SM.H3	Emotional intelligence has a negative effect on herd bias.
SM.H4	Emotional intelligence has a negative effect on overconfidence bias
SM.H5	Emotional intelligence has a negative effect on availability bias.

SI. No.	Hypotheses
SM.H6	Emotional intelligence has a negative effect on cognitive dissonance bias.
SM.H7	Emotional intelligence has a negative effect on representativeness bias.
SM.H8	Emotional intelligence has a negative effect on loss aversion bias.
SM.H9	Anchoring bias has a negative effect on investment performance.
SM.H10	Herd bias has a negative effect on investment performance.
SM.H11	Overconfidence bias has a negative effect on investment performance.
SM.H12	Availability bias has a negative effect on investment performance.
SM.H13	Cognitive dissonance bias has a negative effect on investment performance.
SM.H14	Representativeness bias has a negative effect on investment performance.
SM.H15	Loss aversion bias has a negative effect on investment performance.
SM.MH16	Anchoring bias has a mediating role in the relationship between emotional intelligence and investment performance
SM.MH17	Herd bias has a mediating role in the relationship between emotional intelligence and investment performance
SM.MH18	Overconfidence bias has a mediating role in the relationship between emotional intelligence and investment performance
SM.MH19	Availability bias has a mediating role in the relationship between emotional intelligence and investment performance
SM.MH20	Cognitive dissonance bias has a mediating role in the relationship between emotional intelligence and investment performance
SM.MH21	Representativeness bias has a mediating role in the relationship between emotional intelligence and investment performance
SM.MH22	Loss aversion bias has a mediating role in the relationship between emotional intelligence and investment performance

SM.H1 to SM.H16 indicates Structural Model Hypotheses; SM.MH16 to SM.MH22 represents mediation hypotheses

Figure 6.1

Hypothesized conceptual model for stock market in Kerala that examine the mediating role of behavioral biases in the relationship between emotional intelligence and investment performance

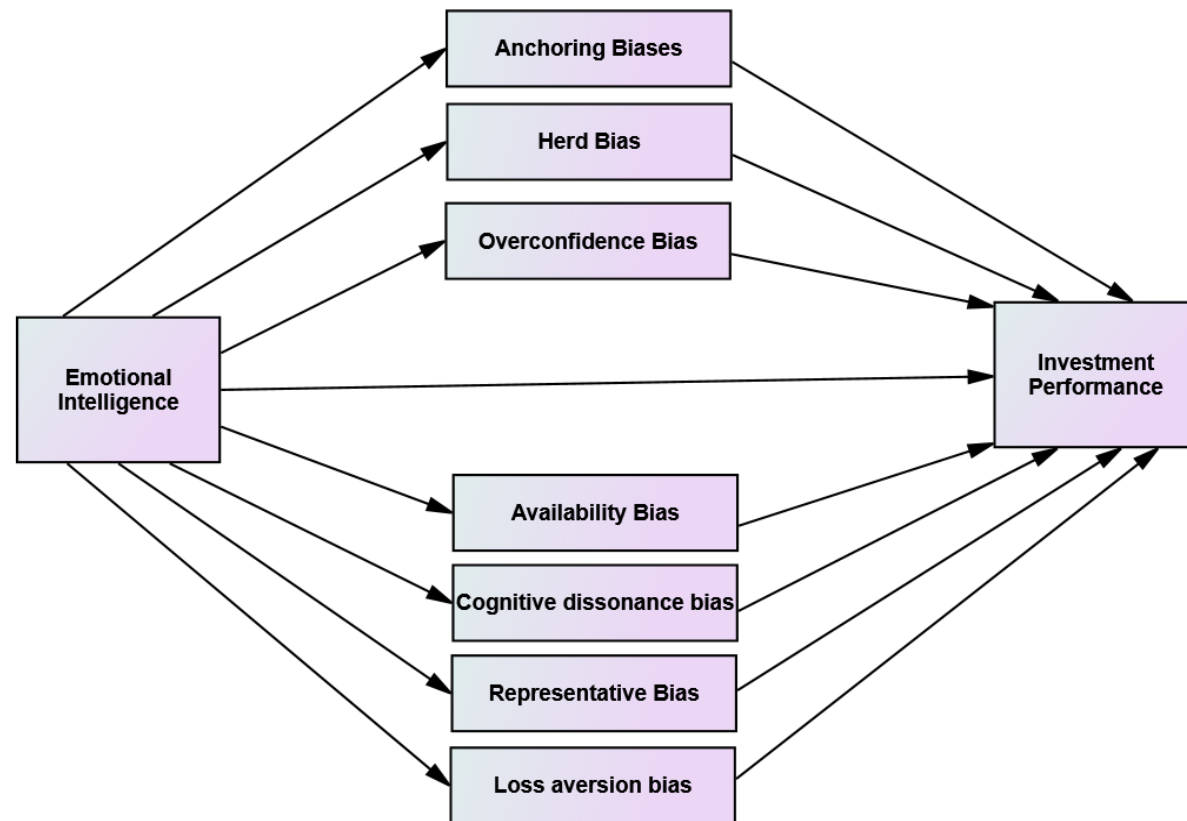


Figure 6.2

Structural Equation Model for stock market in Kerala that examine the mediating role of behavioral biases in the relationship between emotional intelligence and investment performance

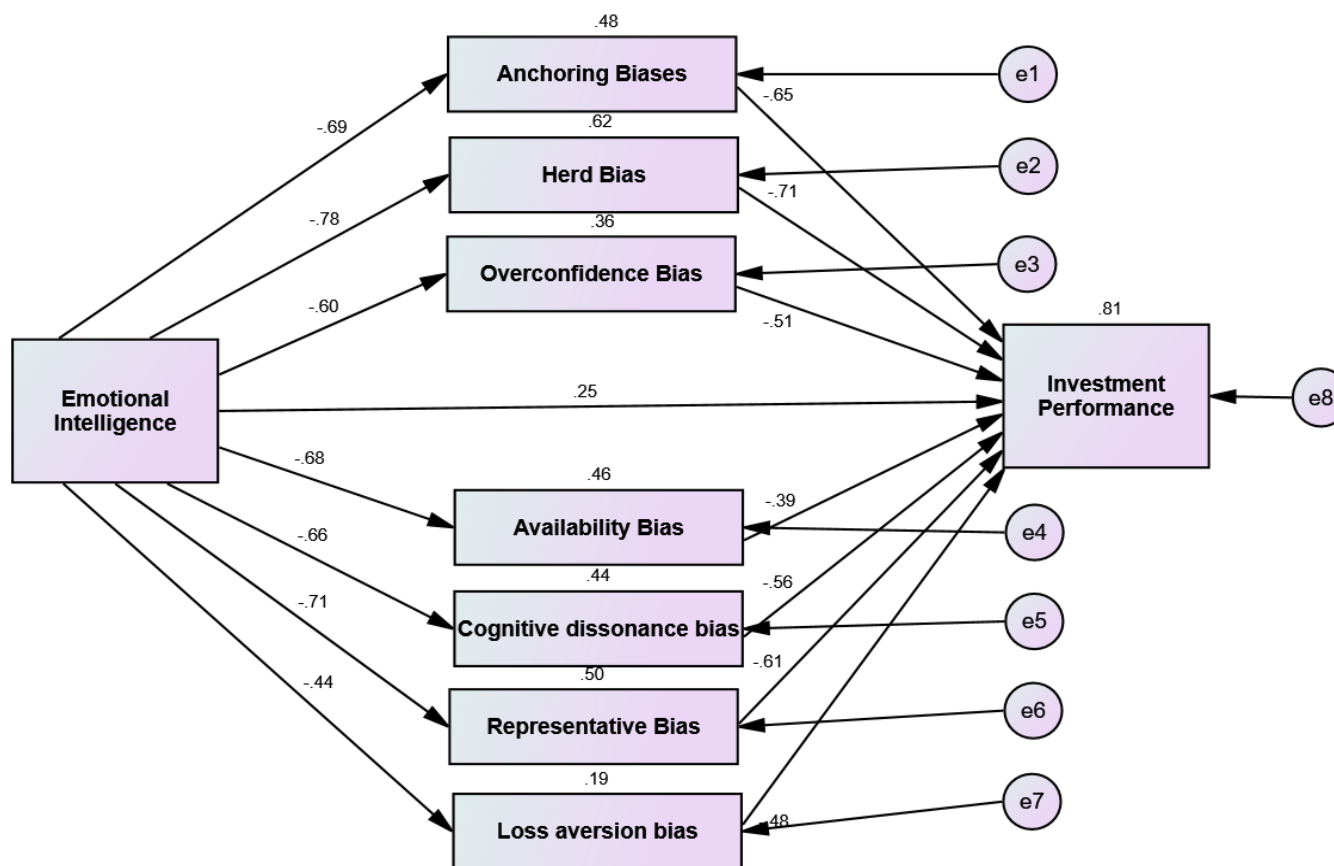


Table 6.2*Model fit indices for parallel mediation model*

Model	CMIN/DF	P-Value	GFI	AGFI	CFI	RMSEA
Study model	4.724	0.000	0.920	0.902	0.944	0.071
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08

Source: Primary Data

A Chi-Square to Degrees of Freedom ratio of fewer than 5 is required for a model to be considered valid. 4.724 falls well within the range of values that have been established as the maximum. The RMSEA is 0.071, which is lower than the acceptable norm of 0.08. All of the fit indices, GFI, AGFI, and CFI, are more than 0.9, which indicates an exact fit. The SEM model is good fit.

6.2.2 The mediating role of behavioral biases in the relationship between emotional intelligence and investment performance

Path analysis

Table 6.3

Values of path analysis and R² for the SEM which examine the mediating role of behavioural biases in the relationship between emotional intelligence and investment performance

Constructs path index			Standardized co-efficient (Beta)	R ² Value	Critical Ratio	P value
Anchoring bias	← (-)	Emotional intelligence	-0.69	0.48	-12.78	<0.001*
Herd bias	← (-)	Emotional intelligence	-0.78	0.62	-13.32	<0.001*
Overconfidence bias	← (-)	Emotional intelligence	-0.60	0.36	-13.01	<0.001*

Constructs path index			Standardize d co-efficient (Beta)	R ² Valu e	Critica l Ratio	P value
Availability bias	← (-)	Emotional intelligence	-0.68	0.46	-12.12	<0.001* *
Cognitive dissonance bias	← (-)	Emotional intelligence	-0.66	0.44	-11.98	<0.001* *
Representativene ss bias	← (-)	Emotional intelligence	-0.71	0.50	-13.12	<0.001* *
Loss aversion bias	← (-)	Emotional intelligence	-0.44	0.19	-8.45	<0.001* *
Investment performance	← (-)	Anchoring bias	-0.65		-17.69	<0.001* *
Investment performance	← (-)	Herd bias	-0.71		-13.17	<0.001* *
Investment performance	← (-)	Overconfidence bias	-0.51		-9.34	<0.001* *
Investment performance	← (-)	Availability bias	-0.39		-7.39	<0.001* *
Investment performance	← (-)	Cognitive dissonance bias	-0.56	0.81	-10.12	<0.001* *
Investment performance	← (-)	Representativene ss bias	-0.61		-11.45	<0.001* *
Investment performance	← (-)	Loss aversion bias	-0.48		-9.33	<0.001* *
Investment performance	← (+)	Emotional intelligence	0.25		5,30	<0.001* *

Source: Primary Data

** indicates significant at 1% level

6.2.3 Results of hypotheses testing

The testing of the hypotheses in the model indicates that all hypotheses are statistically significant. The following lines depict the results of hypothesis testing. The study found that the emotional intelligence of Equity investors in Kerala has a negative impact on various behavioural biases, includes anchoring bias, herd bias, overconfidence bias, availability bias, cognitive dissonance bias, representativeness bias, and loss aversion bias. The beta values for these biases were -0.69, -0.78, -0.60, -0.68, -0.66, -0.71, and -0.44, with a p-value of 0.001 for all beta values. The behavioural biases of stock market participants, includes anchoring bias, herd bias,

overconfidence bias, availability bias, cognitive dissonance bias, representativeness bias, and loss aversion bias, have a negative effect on investment performance. The beta values for these biases are -0.65, -0.71, -0.51, -0.39, -0.56, -0.61, and -0.48, respectively, with a P-value of 0.001. Research has shown that emotional intelligence has a significant positive effect on investment performance. This is supported by a beta value of 0.25 and a p-value of 0.001. The following section outlines the framework for hypothesis testing.

Table 6.4

Summary form of hypotheses testing and its key findings based on direct effects in the model

Hypothesized relationships			Tenability of hypotheses	Key findings based on hypotheses testing
Dependent factor	PD	Independent factor		
Anchoring bias	← (-)	Emotional intelligence	<i>Supported</i>	The results of the hypotheses testing indicate that the emotional intelligence of Equity investors in Kerala can significantly reduce the behavioral biases they possess.
Herd bias	← (-)	Emotional intelligence	<i>Supported</i>	
Overconfidence bias	← (-)	Emotional intelligence	<i>Supported</i>	
Availability bias	← (-)	Emotional intelligence	<i>Supported</i>	
Cognitive dissonance bias	← (-)	Emotional intelligence	<i>Supported</i>	
Representativeness bias	← (-)	Emotional intelligence	<i>Supported</i>	
Loss aversion bias	← (-)	Emotional intelligence	<i>Supported</i>	
Investment performance	← (-)	Anchoring bias	<i>Supported</i>	Hypothesis testing indicates that various behavioral biases such as anchoring bias, herd bias, overconfidence bias, availability bias, cognitive dissonance bias, representativeness bias,
Investment performance	← (-)	Herd bias	<i>Supported</i>	
Investment performance	← (-)	Overconfidence bias	<i>Supported</i>	

Hypothesized relationships			Tenability of hypotheses	Key findings based on hypotheses testing
Dependent factor	PD	Independent factor		
Investment performance	← (-)	Availability bias	<i>Supported</i>	and loss aversion biases, can have negative effects on the performance of stock market investments of Equity investors in Kerala. This indicates that all of the behavioral biases of investors in Kerala will ultimately lead to a poor return on investment for those investors.
Investment performance	← (-)	Cognitive dissonance bias	<i>Supported</i>	
Investment performance	← (-)	Representativeness bias	<i>Supported</i>	
Investment performance	← (-)	Loss aversion bias	<i>Supported</i>	
Investment performance	← (+)	Emotional intelligence	<i>Supported</i>	According to the findings of the study, if investors in the stock market have a greater emotional intelligence, then their investment success would also be higher.

Source: Primary Data

PD denotes Path Direction

6.2.4 Explanations of R² values

The explanatory capacity of the structural equation model is assessed by analyzing the R² coefficient of the dependent variables. The R squared, which represents the coefficient of determination, measures the amount of variation in the data that is explained by the model being analysed. The R² value for anchoring bias is 0.48. This finding suggests that approximately 48% of the anchoring bias variability can be attributed to the emotional intelligence of Equity investors in Kerala. Based on this value, it can be concluded that additional independent variables are required to predict the anchoring biases of Equity investors in Kerala, in addition to emotional intelligence. These independent constructs do not account for the remaining 52% of the variation in anchoring bias.

Similarly, the R² values for various biases are as follows: herd bias (0.62), overconfidence bias (0.36), availability bias (0.46), cognitive dissonance bias (0.44), representativeness bias (0.50), and loss aversion bias (0.19). The R² value for investment performance is 0.81. This model shows that investment performance has a higher explanatory power, while loss aversion bias has a lower explanatory power.

Mediation Testing in the Model

Table 6.5

The bootstrapping procedure to mediate testing in the Model, specifically for direct and mediation effect paths.

Independent construct	Mediation construct	Dependent construct	Direct effect	Indirect effect (Mediation effect)	Result
Emotional intelligence	Anchoring bias	Investment performance		0.45**	Partial mediation
Emotional intelligence	Herd bias	Investment performance		0.55**	Partial mediation
Emotional intelligence	Overconfidence bias	Investment performance		0.31**	Partial mediation
Emotional intelligence	Availability bias	Investment performance	0.25**	0.27**	Partial mediation
Emotional intelligence	Cognitive dissonance bias	Investment performance		0.37**	Partial mediation
Emotional intelligence	Representativeness bias	Investment performance		0.43**	Partial mediation
Emotional intelligence	Loss aversion bias	Investment performance		0.21**	Partial mediation

Source: Primary Data

*The symbol "***" indicates a significant level of 1%. The values for indirect effects are calculated using 5,000 bootstrap samples.*

The findings of the study indicate a significant and positive causal connection between perceived emotional intelligence and investment performance. Additionally, the study reveals a significant and negative causal connection between emotional intelligence and investment performance, which is mediated by the behavioural biases of stock market participants in Kerala. These biases include anchoring bias, herd bias, overconfidence bias, availability bias, cognitive dissonance bias, representativeness bias, and loss aversion. The study employs bootstrapping techniques with 5000 bootstrap samples combined with the IBM-SPSS-AMOS Graphics 21 software package to examine the mediating effect in the pathway. The findings from the mediation analysis indicate that the effects mediated by this pathway are only partially

significant, while the direct relationship between the variables remains statistically significant.

In this instance, partial mediation denotes that there exists a statistically significant association between the mediator, which encompasses diverse behavioural biases of investors, and the dependent variable, namely investment performance. Additionally, there is an obvious direct relationship between the independent variable, emotional intelligence, and the dependent variable, investment performance. Additionally, it has been discovered that all indirect or mediation effect pathway exhibits a negative relationship. The observation suggests that the reduction of inherited behavioural biases among Equity investors in Kerala is linked to their emotional intelligence. Moreover, it claims that the presence of behavioural biases among investors can negatively impact their investment performance. Ultimately, the mediation effects of two negative paths result in positive changes among investors. In summary, the emotional intelligence of Equity investors in Kerala has the potential to offset related behavioural biases and ultimately improve investment performance. The present study aims to investigate the underlying mechanisms of stock market investment in Kerala. Emotional intelligence serves as a catalyst in eliminating the significant issue of behavioural biases encountered by investors in Kerala, ultimately resulting in improved investment performance.

Table 6.6

Result summary of hypothesis testing including mediation analysis

Hypotheses No.	Hypotheses of the model developed	Result of Hypotheses testing
SM.H1	Emotional intelligence has a positive effect on investment performance.	<i>Supported</i>
SM.H2	Emotional intelligence has a negative effect on anchoring bias	<i>Supported</i>
SM.H3	Emotional intelligence has a negative effect on herd bias.	<i>Supported</i>
SM.H4	Emotional intelligence has a negative effect on overconfidence bias	<i>Supported</i>

Hypotheses No.	Hypotheses of the model developed	Result of Hypotheses testing
SM.H5	Emotional intelligence has a negative effect on availability bias.	<i>Supported</i>
SM.H6	Emotional intelligence has a negative effect on cognitive dissonance bias.	<i>Supported</i>
SM.H7	Emotional intelligence has a negative effect on representativeness bias.	<i>Supported</i>
SM.H8	Emotional intelligence has a negative effect on loss aversion bias.	<i>Supported</i>
SM.H9	Anchoring bias has a negative effect on investment performance.	<i>Supported</i>
SM.H10	Herd bias has a negative effect on investment performance.	<i>Supported</i>
SM.H11	Overconfidence bias has a negative effect on investment performance.	<i>Supported</i>
SM.H12	Availability bias has a negative effect on investment performance.	<i>Supported</i>
SM.H13	Cognitive dissonance bias has a negative effect on investment performance.	<i>Supported</i>
SM.H14	Representativeness bias has a negative effect on investment performance.	<i>Supported</i>
SM.H15	Loss aversion bias has a negative effect on investment performance.	<i>Supported</i>
SM.MH16	Anchoring bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH17	Herd bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH18	Overconfidence bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH19	Availability bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>

Hypotheses No.	Hypotheses of the model developed	Result of Hypotheses testing
SM.MH20	Cognitive dissonance bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH21	Representativeness bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH22	Loss aversion bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>

Source: Primary Data

Structural Model Hypotheses are denoted by SM.H1 to SM.H16; Mediation Hypotheses are denoted by SM.MH16 to SM.MH22.

PART B

6.3 The role of risk tolerance as a mediator between the investment personality traits and investment performance of Equity investors in Kerala

This section examines the fourth objective of the study, which was to investigate the role of risk tolerance as a mediator between the investment personality traits and investment performance of Equity investors in Kerala. The IBM SPSS AMOS Graphics 21 software package was used to construct the mediation model, and the bootstrapping method was used to test the model's mediation effect. The independent variable in this study is investment personality traits, the dependent variable is investment performance, and the mediating variable is risk tolerance capacity among Equity investors in Kerala. The bootstrapping method was used to evaluate the mediation effect (indirect effect) in the model.

***Objective IV:** To examine the mediating role of risk tolerance in the relationship between investment personality traits and the investment performance of Equity investors in Kerala*

The development of the mediation model made use of covariance-based structural equation modelling performed with the IBM SPSS AMOS Graphics 21 software

package. The bootstrapping method was selected for the aim of testing the significance of the model's mediation role.

Table 6.7

Hypotheses Formulation

Sl. No.	Hypotheses
MEH.1	Agreeableness personality trait has a positive and direct effect on investment performance.
MEH.2	Neurotism personality trait has a negative and direct effect on investment performance.
MEH.3	Conscientiousness personality trait has a positive and direct effect on investment performance.
MEH.4	Openness personality trait has a positive and direct effect on investment performance.
MEH.5	Extraversion personality trait has a positive and direct effect on investment performance.
MEH.6	Agreeableness personality trait has a positive and direct effect on risk tolerance
MEH.7	Neurotism personality trait has a negative and direct effect on risk tolerance.
MEH.8	Conscientiousness personality trait has a positive and direct effect on risk tolerance.
MEH.9	Openness personality trait has a positive and direct effect on risk tolerance.
MEH.10	Extraversion personality trait has a positive and direct effect on risk tolerance.
MEH.11	Risk tolerance plays mediating role in the relationship between agreeableness personality traits and investment performance.
MEH.12	Risk tolerance plays mediating role in the relationship between neurotism personality traits and investment performance.
MEH.13	Risk tolerance plays mediating role in the relationship between conscientiousness personality traits and investment performance.
MEH.14	Risk tolerance plays mediating role in the relationship between openness personality traits and investment performance.
MEH.15	Risk tolerance plays mediating role in the relationship between extraversion personality traits and investment performance.

Figure 6.3

Mediation model to examine the indirect relationship between personality traits and investment performance, specifically through the mediating factor of risk tolerance.

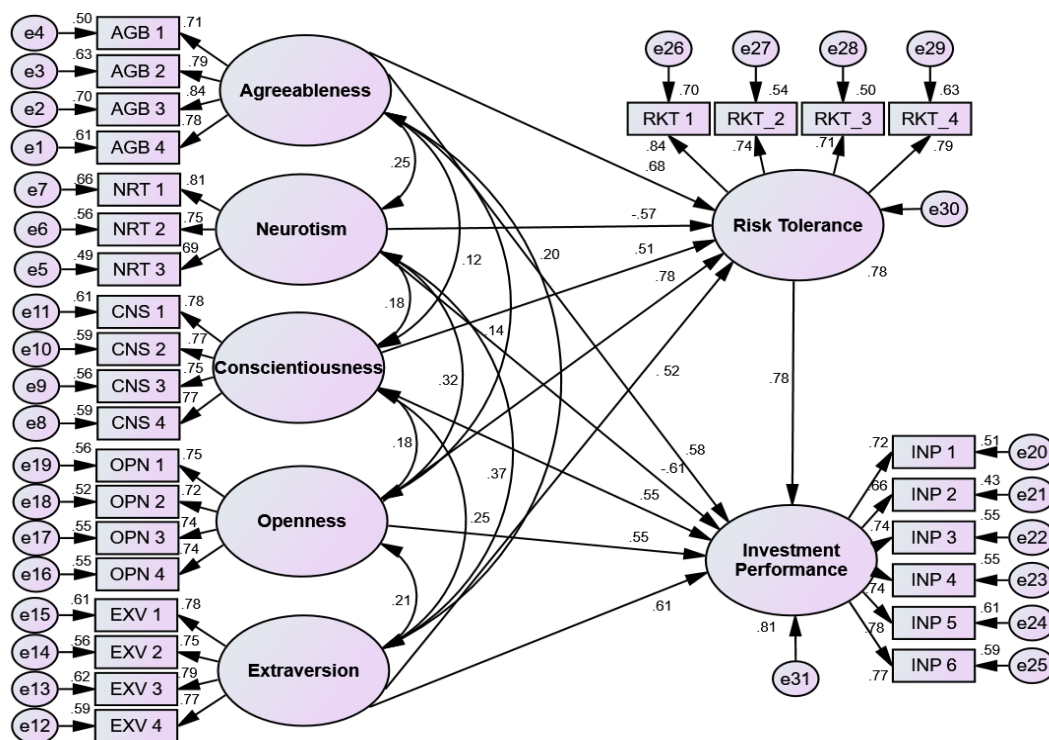


Table 6.8

Fit indices for testing the moderating model

Attributes	CMIN/DF	P-Value	GFI	AGFI	CFI	RMSEA
Study model	4.251	0.000	0.970	0.939	0.969	0.058
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08
Literature support	Hair et al., (1998)	Barrett (2007)	Hair et al. (2006)	Hair et al. (2006)	Hu and Bentler (1999)	Hair et al. (2006)

The table provided displays the structural equation modeling (SEM) fit indices used to evaluate the overall fit of the model. In order for a model to be considered

acceptable, the ratio of the value of Chi-Square to the degrees of freedom should be less than 5. In this particular instance, the value obtained is 4.251, which falls comfortably within the recommended upper limit. The root mean square error of approximation (RMSEA) score is 0.058, which falls significantly below the commonly accepted threshold score of 0.08. Furthermore, it is noteworthy that the GFI, AGFI, and CFI values surpass the threshold of 0.9, with 1.0 being indicative of a perfect fit. Therefore, it can be asserted that the mediation model is an appropriate fit.

Table 6.9

Path values of direct effects in the mediation model

Construct	Path	Construct	Estimate	S.E	C. R	P-value	Result
Investment performance	←	Agreeableness	0.68	0.038	9.78	<0.001**	Significant
Investment performance	←	Neurotism	-0.57	0.034	7.54	<0.001**	Significant
Investment performance	←	Conscientiousness	0.51	0.038	5.98	<0.001**	Significant
Investment performance	←	Openness	0.78	0.037	11.28	<0.001**	Significant
Investment performance	←	Extraversion	0.52	0.039	6.14	<0.001**	Significant
Risk Tolerance	←	Agreeableness	0.58	0.031	7.01	<0.001**	Significant
Risk Tolerance	←	Neurotism	-0.61	0.039	8.64	<0.001**	Significant
Risk Tolerance	←	Conscientiousness	0.55	0.034	6.68	<0.001**	Significant
Risk Tolerance	←	Openness	0.55	0.031	6.66	<0.001**	Significant
Risk Tolerance	←	Extraversion	0.61	0.042	8.62	<0.001**	Significant
Investment performance	←	Risk Tolerance	0.78	0.041	11.24	<0.001**	Significant

Source: Primary Data

** denotes significant at 1% level

Table 6.10

Path values of direct effects in the mediation model

Construct	Path	Construct	Estimate	S.E	C. R	P-value	Result
Investment performance	←	Agreeableness	0.58	0.031	7.01	<0.001**	Significant
Investment performance	←	Neurotism	-0.61	0.039	8.64	<0.001**	Significant
Investment performance	←	Conscientiousness	0.55	0.034	6.68	<0.001**	Significant
Investment performance	←	Openness	0.55	0.031	6.66	<0.001**	Significant
Investment performance	←	Extraversion	0.61	0.042	8.62	<0.001**	Significant
Risk Tolerance	←	Agreeableness	0.68	0.038	9.78	<0.001**	Significant
Risk Tolerance	←	Neuroticism	-0.57	0.034	7.54	<0.001**	Significant
Risk Tolerance	←	Conscientiousness	0.51	0.038	5.98	<0.001**	Significant
Risk Tolerance	←	Openness	0.78	0.037	11.28	<0.001**	Significant
Risk Tolerance	←	Extra-version	0.52	0.039	6.14	<0.001**	Significant
Investment performance	←	Risk Tolerance	0.78	0.041	11.24	<0.001**	Significant

Source: Primary Data

** denotes significant at 1% level

The Figure and table presented above illustrate the positive association between agreeableness personality traits and investment performance, as indicated by a beta value of 0.58 ($p=0.001$). Similarly, the negative relationship between neuroticism personality traits and investment performance is demonstrated by a beta value of -0.61 ($p=0.001$). Furthermore, the positive associations between conscientiousness personality traits (beta value = 0.55, $p=0.001$), openness personality traits (beta value = 0.55, $p=0.001$), and extraversion personality traits (beta value = 0.61, $p=0.001$) with investment performance are also depicted.

Furthermore, the findings of this study demonstrate a significant and direct association between agreeableness personality traits and risk tolerance, as indicated by a beta

value of 0.68 ($p=0.001$). Similarly, neuroticism personality traits exhibit a negative relationship with risk tolerance, with a beta value of -0.57 ($p=0.001$). Moreover, conscientiousness personality traits display a positive correlation with risk tolerance, with a beta value of 0.51 ($p=0.001$). Additionally, openness personality traits are positively linked to risk tolerance, with a beta value of 0.78 ($p=0.001$). Furthermore, extraversion personality traits demonstrate a positive relationship with risk tolerance, with a beta value of 0.52 ($p=0.001$). Lastly, risk tolerance is positively associated with investment performance, as evidenced by a beta value of 0.78 ($p=0.001$). The standardized regression coefficients represent the values associated with each path, indicating the extent of change in the dependent construct resulting from a one standard deviation unit change in the independent variable.

Table 6.11

Summary of the results obtained from hypotheses testing pertaining to the direct effects within the mediation model.

Construct	Path	Construct	Hypotheses	Result
Investment performance	←	Agreeableness	Agreeableness personality trait has a positive and direct effect on investment performance.	Supported
Investment performance	←	Neuroticism	Neuroticism personality trait has a negative and direct effect on investment performance.	Supported
Investment performance	←	Conscientiousness	Conscientiousness personality trait has a positive and direct effect on investment performance.	Supported
Investment performance	←	Openness	Openness personality trait has a positive and direct effect on investment performance.	Supported
Investment performance	←	Extraversion	Extraversion personality trait has a positive and direct effect on investment performance.	Supported

Construct	Path	Construct	Hypotheses	Result
Risk Tolerance	←	Agreeableness	Agreeableness personality trait has a positive and direct effect on risk tolerance	Supported
Risk Tolerance	←	Neurotism	Neurotism personality trait has a negative and direct effect on risk tolerance.	Supported
Risk Tolerance	←	Conscientiousness	Conscientiousness personality trait has a positive and direct effect on risk tolerance.	Supported
Risk Tolerance	←	Openness	Openness personality trait has a positive and direct effect on risk tolerance.	Supported
Risk Tolerance	←	Extraversion	Extraversion personality trait has a positive and direct effect on risk tolerance.	Supported
Investment performance	←	Risk Tolerance	Risk tolerance plays mediating role in the relationship between extraversion personality traits and investment performance.	Supported

Table 6.12

Testing mediation in the model (including direct and indirect effect pathways) with the bootstrapping method

Independent construct	Mediation construct	Dependent construct	Direct effect	Indirect effect (mediation effect)	Result
Agreeableness	Risk Tolerance	Investment performance	0.58	0.53**	Partial mediation
Neurotism	Risk Tolerance	Investment performance	-0.61	-0.44**	Partial mediation
Conscientiousness	Risk Tolerance	Investment performance	0.55	0.40**	Partial mediation

Independent construct	Mediation construct	Dependent construct	Direct effect	Indirect effect (mediation effect)	Result
Openness	Risk Tolerance	Investment performance	0.55	0.61**	Partial mediation
Extraversion	Risk Tolerance	Investment performance	0.61	0.41**	Partial mediation

** represents a significance level of 1%; the indirect effect values are derived by a bootstrapping technique using 5,000 bootstrap samples.

The data presented in the aforementioned table provides insights into the relationship between the personality traits of Equity investors in Kerala and their investment performance. Additionally, it highlights the indirect effect, known as the mediation effect, of personality traits on investment performance through the influence of risk tolerance. The findings of the study indicate a statistically significant positive relationship between the personality traits of Equity investors in Kerala and their investment performance. Additionally, it was observed that there is a positive indirect effect, specifically a mediation effect, between all personality traits of investors (except those with neuroticism traits) and investment performance, mediated through risk tolerance. The present study utilizes bootstrapping methods, specifically 5000 bootstrap samples, to examine the mediation effects of the aforementioned paths. This analysis is conducted using the IBM-SPSS-AMOS Graphics-21 software package. Based on the findings of the mediation analysis, it is observed that the mediated effects of all pathways are only partial, while the direct influence between them remains statistically significant.

The presence of partial mediation suggests that there exists a statistically significant association between the mediator, namely risk tolerance, and the dependent variable, which is investment performance. Additionally, there is evidence of a direct relationship between the independent variable, specifically personality traits, and the dependent variable, investment performance. In addition to the direct relationship between personality traits and investment performance, there exists an indirect relationship mediated by the risk tolerance capacity of investors.

It indicates that Equity investors in Kerala with particular personality traits, such as agreeableness, conscientiousness, openness, and extraversion, have the capacity to take adequate risk with reference to the investment of stock market. They have a greater capacity to tolerate risk, which will increase the likelihood of an improvement in the performance of their investments. It emphasizes the facts that investors with agreeableness, conscientiousness, openness, and extraversion personality traits will be able to manage their investments properly. As a result, individuals who possess these traits are more inclined to attain good investment performance. Additionally, there is empirical evidence that demonstrates investors have the capacity to take on the risks that are associated with investments in the stock market, which contributes to the improved performance of investments in the stock market on this basis as well. Within the framework of the model, the neurotic personality traits have a negative direct, and mediating effect. It is a sign that those who invest in the stock market who have personality traits associated with neuroticism would have poor returns on their investments.

6.4 Conclusion

The first part of this chapter presents the results of hypothesis testing, which consisted of twenty-two hypotheses. These hypotheses included fifteen structural equation modelling (SEM) hypotheses and seven mediation hypotheses. Based on the hypotheses testing results, a parallel mediation model was developed for stock market investment in Kerala. All twenty hypotheses, including seven mediation hypotheses, are supported by the analysed model. The results of the hypothesis testing suggest that emotional intelligence and investment performance are influenced by several behavioural biases, such as anchoring bias, herd bias, overconfidence bias, availability bias, cognitive dissonance bias, representativeness bias, and loss aversion biases. Investors in Kerala might have emotional intelligence, which could potentially help them overcome their behavioural biases and make better investment performance. Ultimately, reducing investors' behavioural biases will lead to improved investment performance in the future. Based on the fit indices, it can be concluded that both the

Confirmatory Factor Analysis (CFA) and the Structural Equation Modelling (SEM) models demonstrate a satisfactory level of fit.

This second part (Part B)of this chapter covers the fourth objective of the study, which was to investigate the work that risk taking plays as a mediator in the link between the personality traits of Equity investors and the degree of investment performance they achieve. The results of the mediation test indicate that there is a positive and mediation affect (Partial mediation) between the personality traits of Equity investors and their investment performance via risk tolerance. This effect is revealed to be partially mediated. With the assistance of the IBM-SPSS-AMOS-21 software package, the mediation effects of these paths were investigated with the help of bootstrapping methods (5000 bootstrap samples), and the results supported the relevance of the mediation effect.

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Chapter 7

Levels and Interconnection of Investment Performance and Reinvestment Decisions of equity investors in Kerala

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7.1 INTRODUCTION

This chapter focuses on fifth objective of the study which pertains to the examination of investment performance levels and re-investment decisions made by Equity investors in Kerala. Additionally, it aims to explore the potential differences in these factors, taking into account the socio-demographic and economic backgrounds of the investors. The cross-analysis of respondents' socio-demographic and economic profiles encompasses characteristics such as age, gender, level of education, annual income, and experience in the field of share trading.

Objective V: To examine the levels and causal connection of investment performance and re-investment decisions of Equity investors in Kerala

In order to accomplish this objective, many statistical methods are employed, such as Quartile settings, Percentage Analysis, Chi-Square tests for goodness of fit and association and Structural Equation Modelling techniques.

PART- A

7.2 THE LEVEL OF INVESTMENT PERFORMANCE AND RE-INVESTMENT DECISIONS OF EQUITY INVESTORS IN KERALA

The measurement of the following two parameters is being conducted.

- 1. Investment performance*
- 2. Reinvestment decisions*

H0 1: There is no significant difference among the levels of investment performance of Equity investors in Kerala.

Table 7.1

The levels of investment performance of Equity investors in Kerala.

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of investment performance	116 (27.9%)	224 (53.8%)	76 (18.3%)	416 (100%)	84.53	<0.001**

Source: Primary Data

*Note: ** denotes 1% level significance.*

Considering the P value is less than 0.01 at 1% significance, the null hypothesis is rejected. As a result, it implies that there is a significant variance in the level of investment performance among Equity investors in Kerala. Among the respondents, 27.9 per cent of investors have low level of investment performance. Compared to 18.3 percent who show that their investments are performing at high level, 53.8 per cent of the investment of the Equity investors shows that their investments are performing at moderate level

The study has unmistakably established that stock market participants in Kerala experiencing a moderate level of performance on their investments.

H0:2 There is no significant difference among the levels of reinvestment decision of Equity investors in Kerala.

Table 7.2

The levels of reinvestment decision of Equity investors in Kerala.

Attribute	Low level	Moderate level	High level	Total	Chi-Square value	P value
Level of Reinvestment decision	144 (34.6%)	144 (34.6%)	128 (30.8%)	416 (100%)	1.23	0.540 ^{NS}

Source: Primary Data

Note: ^{NS} denotes not significant

As a result of the P value being greater than 0.05, the null hypothesis is accepted. It can be state that, there is no significant difference among the levels of reinvestment decision of Equity investors in Kerala.

PART- B

7.3 THE LEVEL OF INVESTMENT PERFORMANCE AND RE-INVESTMENT DECISIONS ACROSS VARIOUS SOCIO-DEMOGRAPHIC AND ECONOMIC PROFILE OF THE INVESTORS IN KERALA

The analysis incorporates the consideration of five socio-demographic parameters.

(1) Gender (2) Age (3) Educational Qualification (4) Annual income

H.0:3 There is no significant association between gender and the level of investment performance of the Equity investors in Kerala.

Table 7.3

Chi-square test for association between gender and the level of investment performance of the Equity investors in Kerala.

Gender	Level of investment performance			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Male	100 26.3%	204 53.7%	76 20.0%	380 100.0%	11.09	0.004**
Female	16 44.4%	15 41.6%	5 13.8%	36 100.0%		
Total	116 27.9%	219 52.6%	81 19.4%	416 100.0%		

Source: Primary Data

*Note: ** denotes significant at 1% level*

The null hypothesis is disproved since the P value is less than 0.01 at the 1% level of significance. It demonstrates that there is significant variation between gender and the level of investment performance among Kerala Equity investors . It can be observed

among male investors, 26.3 per cent of them attained a low level of investment performance, a moderate level by 53.7 per cent, and a high level by 20 per cent of investors in the stock market. In the case of female investors, it was found that, a low - level of investment performance was accomplished by 44.4 per cent, a moderate level by 41.6 per cent, and a high level by 13.8 per cent of respondents.

It can be examined that low level of investment performance is higher among female investors while high level investment performance is more frequent among male investors. It shows that better investment performance is enjoyed by the male investors than female investors.

H.0:4 There is no significant association between age and the level of investment performance of the Equity investors in Kerala.

Table 7.4

Chi-square test for association between age and the level of investment performance of the Equity investors in Kerala.

Age groups of investors	Level of investment performance			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	60 34.9%	100 58.1%	12 7.0%	172 100.0%	44.81	<0.001**
36 to 45	36 23.1%	72 46.2%	48 30.8%	156 100.0%		
46 to 55	12 21.4%	28 50.0%	16 28.6%	56 100.0%		
Above 55	8 25.0%	19 59.3%	5 15.6%	32 100.0%		
Total	116 27.9%	219 52.6%	81 19.4%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

The null hypothesis is rejected since the P value is less than 1% level of significance. It demonstrates that there is a significant association between age and the level of

investment performance among Equity investors in Kerala. It can be observed among investors with age group of up to 36 years, low level of investment performance was attained by 34.9 per cent of them, moderate performance was attained by 58.1 per cent, and high-level performance was attained by 7 per cent of them in the stock market. In the case of investors in the ages of 36 to 45, 23.1 per cent of them reached a low level of investment performance towards stock market, followed by 46.2 per cent who reached a moderate level of performance on investments, and 30.8 per cent who obtained a high-level investment performance. While considering the investors in the age category of 46 to 55, 21.4 per cent of investors attained a low level of investment performance, 50 per cent of investors attained a moderate level of investment performance, and 28.6 per cent of investors reached a high level of performance on their investments in stock market. Regarding the investors in the age group of above 55, 25 per cent of Equity investors reached a low level of investment performance. In comparison to the 59.3 per cent of investors who reached a moderate level of investment performance, 15.6 per cent of investors secured a high level of investment performance towards their stock market investments.

In conclusion, investors under the age of 36 are more likely to attain a low-level investment performance, whereas investors between the ages of 36 and 45 are more likely to reach high-level investment performance. The results show that investors in the ages of 36 to 45 of Equity investors reached higher investment performance, in their investments than investors between the ages of 36 and under, 46 to 55 and above 55.

H.0.5 There is no significant association between education and the level of investment performance of the Equity investors in Kerala.

Table 7.5

Chi-square test for association between education and the level of investment performance of the Equity investors in Kerala

Education	Level of investment performance			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	20 55.6%	12 33.3%	4 11.1%	36 100.0%	57.72	<0.001**
Under graduate	64 27.1%	144 61.0%	28 11.9%	236 100.0%		
Post graduate	28 35.0%	36 45.0%	16 20.0%	80 100.0%		
Professional	4 6.3%	32 50.0%	28 43.8%	64 100.0%		
Total	116 27.9%	224 53.8%	76 18.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Since the P value is less than 0.01, so the null hypothesis is rejected at 1% significant level. Thus, it reveals that there is a significant association between education and the level of investment performance of the Equity investors in Kerala. Based on the data it can be analyzed that among the investors with qualification of up to HSC, 55.6 per cent of them attain a low level of performance of stock market investments. 33.3 per cent of them achieve a moderate level of investment performance and 11.1 per cent reached a high level of performance on their stock market investments. In the case of investors with qualification of under graduate, 27.1 per cent attained a low degree of investment performance, 61 per cent at a moderate level, and 11.9 per cent attained a high level of performance on their stock market investments. While considering investors who are post graduate, 35per cent of them obtain a low level of performance

on their stock market investments. 45 per cent reached a moderate level of investment performance whereas 20 per cent secured a high level of investment performance in relation to stock market investments. In terms of investors with professional qualification, 6.3 per cent obtained a low level of investment performance. 50 per cent of stock market participants attained a moderate level of investment performance, while 43.8 per cent achieved a high level of investment performance

It can be stated that low level of investment performance is more frequent among investors with qualification of up to HSE while, high level investment performance is more common among investors with qualification of professional. Hence, in Kerala, stock market participants with qualification of professional are more likely to attain investment performance than those with qualification of up to HSE, under graduation and post-graduation.

H.0:6 There is no significant association between annual income and the level of investment performance of the Equity investors in Kerala.

Table 7.6

Chi-square test for association between annual income and the level of investment performance of the Equity investors in Kerala

Annual income	Level of investment performance			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	48 33.8%	90 63.4%	4 2.8%	142 100.0%	46.21	<0.001**
5,00,001 to 10,00,000	48 31.6%	68 44.7%	36 23.7%	152 100.0%		
10,00,001 to 15,00,000	16 21.1%	36 47.4%	24 31.6%	76 100.0%		
Above 15,00,000	4 8.7%	30 65.2%	12 26.1%	46 100.0%		
Total	116 27.9%	224 53.8%	76 18.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Considering the P value is less than 0.01 at the 1% level of significance, the null hypothesis is discarded. It appears that among stock market participants in Kerala, there is a significant relationship between annual income and the degree of investment performance. It is possible to determine using information that among the investors with annual income of up to 5,00,000, 33.8 per cent attained low level of investment performance, 63.4 per cent at moderate level, and 2.8 per cent attained a high-level investment performance in stock market. In the case of investors with annual income of 5,00,001 to 10,00,000, 31.6 per cent of investors obtain low level of investment performance. Though 44.7 per cent of investors attained a moderate level of investment performance, 23.7 per cent secured a high level of investment performance with respect to stock market. While considering investors with annual income of 10,00,001 to 15,00,000, a low level of investment performance achieved by 21.1 per cent of investors. A moderate level of performance on investment is obtained by 47.4 per cent of respondents, whereas a high level of investment performance was achieved by 31.6 per cent regarding of stock market investments. In terms of investors with annual income of above 15,00,000, 8.7 per cent of respondents obtaining low level of investment performance. 65.2 per cent attain a moderate level of performance, while 26.1 per cent of stock market participants secured a high level of performance on their investments

Investors with annual incomes of up to 5,00,000 are more likely to obtain low level investment performance, whereas those with annual incomes of 10,00,001 to 15,00,000 are more likely to secure high level investment performance. Because of this, stock market participants in Kerala with annual incomes between 10,00,001 to 15,00,000 are securing greater investment performance than those with annual incomes up to 5,00,000, 5,00,001 to 10,00,000, and above 15,00,000.

H.0:-7 There is no significant association between stock market dealing experience and the level of investment performance of the Equity investors in Kerala.

Table 7.7

Chi-square test for association between experience and the level of investment performance of the Equity investors in Kerala

Stock market dealing Experience	Level of investment performance			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	24 29.3%	46 56.1%	12 14.6%	82 100.0%	38.27	<0.001**
1 to 3 years	48 35.3%	80 58.8%	8 5.9%	136 100.0%		
3 to 6 years	28 25.9%	56 51.9%	24 22.2%	108 100.0%		
6 to 9 years	12 23.1%	24 46.2%	16 30.8%	52 100.0%		
Above 9 years	4 10.5%	18 47.4%	16 42.1%	38 100.0%		
Total	116 27.9%	224 53.8%	76 18.3%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

Because the P value is less than 0.01 at the 1% level of significance, the null hypothesis is ignored. There seems to be a significant association between experience and level of investment performance among stock market participants in Kerala. With the given information, one may ascertain that among the investors with experience of up to 1 year, 29.3 per cent of investors attained low level of investment performance, 56.1 per cent at a moderate level, and 14.6 per cent at a high level. In the case of investors with experience of 1 to 3 years, 35.3 per cent of investors obtained a low level of investment performance. 58.8 per cent of investors and 5.9 per cent of

investors, respectively, obtained moderate and high levels of performance on their stock market investment. While considering investors with experience of 3 to 6 years, a low level of performance on their stock market investments was obtained by 25.9 per cent of respondents. 22.2 percent of respondents achieved high levels of investment performance with respect to stock market investments, compared to 51.9 percent who achieved just moderate levels. In terms of investors with experience of 6 to 9 years, 30.8 percent of stock market participants reached high levels of investment performance, compared to 23.1 percent of respondents who attained lower levels, and 46.2 percent of respondents who obtained moderate levels of stock market investment performance. Considering the investors who have the experience above 9 years, 10.5per cent reached low level performance on their investments, moderate level of investment performance obtained by 47.4per cent, and higher level by 42.1per cent of investors regarding their investments in stock market

Investors with experience between one and three years attained lower levels of investment performance, while those with experience over nine years were more likely to reach high levels of performance in their stock market investments. Consequently, investors possessing more than nine years of experience in stock trading showcase superior investment performance compared to stock market traders in Kerala with yearly earnings ranging from less than one year to three years, three to six years, and and six to nine years.

7.4 Level of reinvestment decisions across various socio-demographic and economic profiles of the investors in Kerala

H.0: 8 There is no significant association between gender and the level of reinvestment decision of the Equity investors in Kerala.

Table 7.8

Chi-square test for association between gender and the level of reinvestment decision of the Equity investors in Kerala.

Gender	Level of reinvestment decision			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Male	124 32.6%	116 30.5%	140 36.8%	380 100.0%	11.36	0.003**
Female	20 55.6%	4 11.1%	12 33.3%	36 100.0%		
Total	144 34.6%	120 28.8%	152 36.5%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

Because the P value is less than 0.01 at the 1% level of significance, the null hypothesis is refuted. It indicates that there is significant difference between gender and the level of reinvestment decision among Kerala Equity investors. It can be analyzed that among male investors, 32.6 percent choose to reinvest in the stock market at a low level, 30.5 per cent having a moderate level of reinvestment decision, and 36.8 per cent have a higher level of reinvestment decision based on stock market investments. In the case of female investors, it was found that 55.6 per cent of Equity investors have low level of reinvestment decision, 11.1 percent have a moderate level of reinvestment decision, and 33.3 percent believe have a high level of reinvestment decision.

Ultimately, female investors in stock market trading in Kerala tend to make fewer reinvestment decisions, while male investors are more likely to make more

reinvestment decisions. The data imply that men investors make more decisions about reinvesting their holdings than female investors.

H.0:9 There is no significant association between age and the level of reinvestment decision of the Equity investors in Kerala.

Table 7.9

Chi-square test for association between age and the level of reinvestment decision of the Equity investors in Kerala.

Age	Level of reinvestment decision			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 36 years	76 44.2%	64 37.2%	32 18.6%	172 100.0%	41.24	<0.001**
36 to 45	52 33.3%	64 41.0%	40 25.6%	156 100.0%		
46 to 55	8 14.3%	32 57.1%	16 28.6%	56 100.0%		
Above 55	8 25.0%	16 50.0%	8 25.0%	32 100.0%		
Total	144 34.6%	144 34.6%	128 30.8%	416 100.0%		

Source: Primary Data

Note: ** denotes significant at 1% level

The P value is less than 1% level of significance, hence the null hypothesis is ignored. It indicates that among Equity investors in Kerala, there is a significant relationship between age and the level of reinvestment decision. It can be examined that among investors with age group of up to 36 years, less reinvestment in stock market assets is chosen by 44.2 per cent of them. 37.2 per cent of investors indicate a moderate degree of reinvestment, while 18.6 per cent of investors report a high level of reinvestment in the stock market. In the case of investors in the ages of 36 to 45, 33.3 percent of them opted for reinvesting in the stock market at a low level, followed by 25.6 percent who detected a reinvesting decision at a moderate level, and 41 per cent who noted a reinvesting decision at a high level. While considering the investors in the age

category of 46 to 55, 14.3 percent of investors feels a low level of reinvestment choice, 57.1 per cent claim a moderate level of reinvestment decision, and 28.6 per cent claim a high level of reinvestment decision in the stock market. Regarding the investors in the age group of above 55, 25 per cent of Equity investors believe they have a limited capacity for reinvestment. 25 per cent of investors reported having a high degree of reinvestment decision in the stock market, as opposed to 50 per cent of investors who realised a moderate level of reinvestment decision.

In conclusion, investors under the age of 36 are more likely to feel low-level reinvestment decision, whereas investors between the ages of 46 to 55 are more likely to realise high-level reinvestment decision. The findings reveal that Equity investors in Kerala between the ages of 46 and 55 exhibit greater reinvestment decision-making than those between the ages of 36 and under, 36 to 45, and above 55 yrs .

H.0:10 There is no significant association between education and the level of reinvestment decision of the Equity investors in Kerala.

Table 7.10

Chi-square test for association between education and the level of reinvestment decision of the Equity investors in Kerala

Education	Level of reinvestment decision			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to HSC	12 33.3%	20 55.6%	4 11.1%	36 100.0%	18.15	0.006**
Under graduate	92 39.0%	72 30.5%	72 30.5%	236 100.0%		
Post graduate	24 30.0%	32 40.0%	24 30.0%	80 100.0%		
Professional	16 25.0%	20 31.3%	28 43.8%	64 100.0%		
Total	144 34.6%	144 34.6%	128 30.8%	416 100.0%		

Source: Primary Data

***denotes significant at 1% level*

The null hypothesis gets dismissed at the 1% level of significance since the P value is below 0.01. As a result, it demonstrates that there is a significant relationship between education and the level of reinvestment decision among Kerala stock market participants. Based on the data it can be analyzed that among the investors with qualification of up to HSC, 33.3 percent of them realize a low level of stock market reinvestment decision. Of these, 55.6 percent have a moderate degree of reinvestment decision and 11.1 percent have a high level in their stock market holdings. In the case of investors with qualification of under graduate, 39 per cent of Equity investors give little thought to reinvesting their assets, 30.5 per cent choose moderate reinvestment options, and 30.5 per cent declare higher reinvestment intentions. While considering investors who are post graduate, a poor level of reinvestment decision on their stock market investments is declared by 30 percent of them. 40 per cent of respondents display a moderate level of reinvestment decision-making in their stock market investments, while 30 per cent do so at a high level. In terms of investors with professional qualification, 25 percent of respondents claimed to have made few reinvestment decisions. 43.8 percent of stock market participants said they have a high level of reinvestment decision, compared to 31.3 per cent who said they have a moderate level.

It can be said that investors with undergraduate degrees are more likely to make low-level reinvestment decisions, whilst investors with professional degrees are more likely to make high-level reinvestment decisions. Therefore, stock market participants with professional qualifications are more likely to declare reinvesting their assets than those with HSC, undergraduate, and graduate degrees

H.0:11 There is no significant association between annual income and the level of reinvestment decision of the Equity investors in Kerala.

Table 7.11

Chi-square test for association between annual income and the level of reinvestment decision of the Equity investors in Kerala

Annual income	Level of reinvestment decision			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 5,00,000	44 31.0%	42 29.6%	56 39.4%	142 100.0%	62.89	<0.001**
5,00,001 to 10,00,000	80 52.6%	52 34.2%	20 13.2%	152 100.0%		
10,00,001 to 15,00,000	8 10.5%	28 36.8%	40 52.6%	76 100.0%		
Above 15,00,000	12 26.1%	22 47.8%	12 26.1%	46 100.0%		
Total	144 34.6%	144 34.6%	128 30.8%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The null hypothesis is disregarded because the P value is less than 0.01 at the 1% level of significance. It appears that among stock market participants in Kerala, there is a significant relationship between annual income and the level of reinvestment decision. With the given information, one may ascertain that among the investors with annual income of up to 5,00,000, 31 percent choose to reinvest in the stock market at a low level, 29.6 percent at a moderate level, and 39.4 percent at a high level. In the case of investors with annual income of 5,00,001 to 10,00,000, 52.6 per cent of investors admit they have a low level of reinvestment decision. Despite the fact that 13.2 per cent of investors and 34.2 per cent of investors, respectively, reported high and moderate levels of stock market reinvestment. While considering investors with annual income of 10,00,001 to 15,00,000, 10.5 percent of investors said that they made minimal reinvestment decisions in their stock market investments. A high degree of reinvestment decisions was stated by 52.6 per cent of respondents with relation to stock market investments, compared to a moderate level by 36.8 per cent of respondents. In terms of investors with annual income of above 15,00,000, a high

degree of reinvestment decisions made by 26.1 per cent of stock market participants, compared to lower reinvestment decisions by 26.1 per cent of respondents, and moderate reinvestment decisions by 47.8 per cent of respondents.

Investors with yearly incomes between 5,00,001 to 10,00,000 have lower levels of reinvestment decision, whereas those between 10,00,001 to 15,00,000 are more likely to feel high levels of reinvestment decision in their stock market investments. As a result, stock market traders in Kerala with annual earnings between 10,00,001 and 15,00,000 are more likely to engage in reinvestment than investors with annual incomes of less than 5,00,000, between 5,00,001 and 10,00,001, and greater than 15,00,000.

H.0:12 There is no significant association between experience of dealing with stock market and the level of reinvestment decision bias of the Equity investors in Kerala.

Table 7.12

Chi-square test for association between experience and the level of reinvestment decision bias of the Equity investors in Kerala

Experience of dealing with stock market	Level of reinvestment decision			Total	Chi-square Value	P value
	Low level	Moderate Level	High level			
Up to 1 year	16 19.5%	34 41.5%	32 39.0%	82 100.0%	74.21	<0.001**
1 to 3 years	40 29.4%	40 29.4%	56 41.2%	136 100.0%		
3 to 6 years	64 59.3%	20 18.5%	24 22.2%	108 100.0%		
6 to 9 years	8 30.8%	28 53.8%	16 30.8%	52 100.0%		
Above 9 years	16 42.1%	17 44.7%	5 13.1%	38 100.0%		
Total	144 34.6%	144 34.6%	128 30.8%	416 100.0%		

Source: Primary Data

** denotes significant at 1% level

The null hypothesis is disregarded because the P value is less than 0.01 at the 1% level of significance. It appears that among stock market participants in Kerala, there is a significant relationship between experience and the level of reinvestment decision. With the given information, one may ascertain that among the investors with experience of up to 1 year, 19.5 percent choose to reinvest in the stock market at a low level, 41.5 percent at a moderate level, and 39 percent at a high level. In the case of investors with experience of 1 to 3 years, 29.4 per cent of investors admit they have a low level of reinvestment decision. 41.2 per cent of investors and 29.4 per cent of investors, respectively, reported high and moderate levels of stock market reinvestment. While considering investors with experience of 3 to 6 years, 59.3 percent of investors said that they made low level reinvestment decisions in their stock market investments. A high degree of reinvestment decisions was stated by 22.2 per cent of respondents with relation to stock market investments, compared to a moderate level by 18.5 per cent of respondents. In terms of investors with experience of 6 to 9 years, a high degree of reinvestment decisions made by 30.8 per cent of stock market participants, compared to lower reinvestment decisions by 30.8 per cent of respondents, and moderate reinvestment decisions by 53.8 per cent of respondents. Considering the investors who have the experienced above 9 years 42.1 per cent made minimal decision about reinvestment, moderate level by 44.7 per cent, and higher level by 13.1 per cent of investors regarding their investments in stock market

Investors with experience of 3 to 6 years have lower levels of reinvestment decision, whereas those with experience of 1 to 3 are more likely to feel high levels of reinvestment decision in their stock market investments. Consequently, stock market traders in Kerala, categorized based on their trading experience of up to 1 year, 3 to 6 years, 6 to 9 years, and above 9 years, exhibit a lower inclination towards reinvesting in the stock market than investors with stock trading experience 1 to 3 years.

PART- C

7.5 CAUSAL CONNECTION OF INVESTMENT PERFORMANCE AND RE-INVESTMENT DECISIONS OF EQUITY INVESTORS IN KERALA

In this part, the researcher investigates how the performance of investment of the investors in stock market are connected with their reinvestment decision or effect of investment performance on the reinvestment decisions made by those investors. The SEM approach has been chosen for this investigation.

Figure 7.1

Structural Equation modeling for assessing the causal connection between investment performance and reinvestment decisions of Equity investors in Kerala

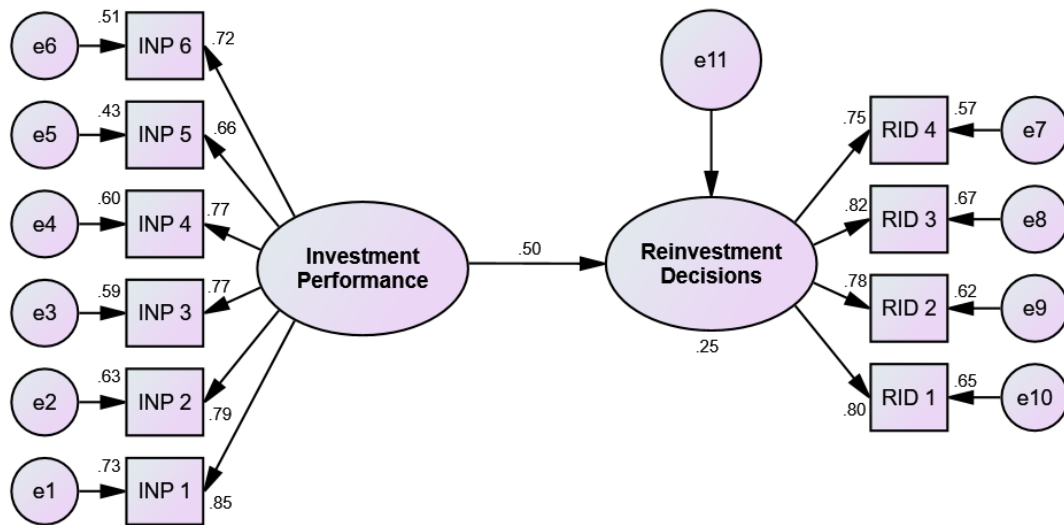


Table 7.13

Model fit indices for SEM that examine the causal connection between investment performance and reinvestment decisions of the Equity investors in Kerala

Attributes	CMIN/DF	P-Value	GFI	AGFI	CFI	RMSEA
Study model	1.583	0.082	0.992	0.978	0.998	0.017
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08
Literature support	Hair et al., (1998)	Barrett (2007)	Hair et al. (2006)	Hair et al. (2006)	Hu and Bentler (1999)	Hair et al. (2006)

Source: Primary Data

The Chi-Square/DF ratio for a model should have a value that is lower than 1.583 in order to fall within the acceptable range. The RMSEA value is 0.017, which is significantly lower than the minimum acceptable level of 0.08. Each of the GFI, AGFI, and CFI scores is greater than 0.9, but a score of 1.0 indicates an exact fit.

Table 7.14

The Hypotheses for model building

SI. No.	Hypotheses
SEM 1	Investment performance has a positive effect on reinvestment decisions of the Equity investors in Kerala

Source: Primary Data

Table 7.15

Values of path analysis and R² for the SEM which examine the causal connection between investment performance and reinvestment decisions of the Equity investors in Kerala

Constructs path index	Standardized co-efficient (Beta)	R ² Value	Critical Ratio	P value
Reinvestment decisions ← Investment performance (+)	0.50	0.25	7.45	<0.001**

Source: Primary Data

** denotes significant at 1% level.

The aforementioned model's path analysis demonstrates a significant positive relationship between the performance of investments and the reinvestment decisions made by Equity investors in Kerala ($\beta = 0.50$, $p < 0.001^{**}$). This means that a one-unit increase in the standard deviation of investment performance corresponds with a 0.50 increase in the reinvestment decision made by investors. This implies that an improvement in the investment success of investors is associated with a higher likelihood of their subsequent reinvestment selections in the stock market.

7.6. Conclusions

This section pertains to the third objective of the study, which aimed to ascertain the levels and interconnections of investment performance and reinvestment decisions made by Equity investors in Kerala. Data on many factors, namely respondents' gender, age, levels of education, annual income, and level of share-trading experience, was extracted for the purpose of conducting a cross-sectional analysis. The data indicates that the reinvestment decisions made by Equity investors in Kerala are influenced by their present investment performance.

Chapter 8

Summary, Findings and Conclusion

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8.1 Introduction

The earlier chapters discuss the level of behavioural biases, personality traits, and emotional intelligence factors exhibited by the investors in Kerala. The relationship between various personality traits and the basis of investors is also examined through the study. The last chapter measures the mediating role of behavioural biases in the relationship between emotional intelligence and investment performance among investors in Kerala. The present chapter begins with a small introduction follows a brief summary of all chapters and highlights the major findings of the study.

8.2 CHAPTER SUMMARY: -

A brief summary of all chapters are given below:

Chapter 1: Provides an overview of the entire research process. A brief introduction to the concepts of behaviour finance and behavioural bias, the significance of the study, statement of problem, research question, the objectives of the study, hypothesis, an operational definition of variables, and chapterisation schemes etc are included in this chapter.

Chapter 2: Discussed the relevant literature in the same area. The studies are classified into four sections, such as studies relating to demographic features and Behavioural bias, studies related to the behaviour bias of investors, studies related to the personality traits of investors, and studies relating to the emotional intelligence and investment decisions of the investors etc . Various national and international-level studies are included in this chapter. Through the review, the researcher identified a research gap in the literature.

Chapter 3: Gives details of theories related to the research area. This chapter discuss traditional approach to investor behaviour, financial market anomalies, theories of finance, history of behaviour finance, behavioural biases, personality traits and the emotional intelligence of investors.

Chapter 4: Deals with the research design and methodology used in the research work. The chapter explains sample design, scale development and validation processes, and various statistical tools used for analysis.

Chapter 5: Gives a detailed analysis of personality traits, emotional intelligence, and the social and economic profile of equity investors. The chapter also discusses the association between investment personality and the behavioural biases of the respondents and examines the relationship between personality traits and emotional intelligence factors of investors. The second part of this chapter addresses the second objective of measuring the various levels of behavioural biases exhibited by equity investors, and the association between behavioural biases and the socio-economic profile of the investors is also examined . The association between investors personality traits and their emotional diligence is also measured in this chapter.

Chapter 6: Examine the mediating role of behaviour bias in the relationship between emotional intelligence and the investment performance of equity investors. The SEM model is used to examine the relationship between variables. The study shows that there is a partial mediation between the variables. This chapter concludes that all of the behavioural biases of investors in Kerala will ultimately lead to a poor return on investment. The emotional intelligence of Equity investors in Kerala has the potential to offset related behavioural biases and ultimately improve investment performance. Emotional intelligence serves as a catalyst for eliminating the significant issue of behavioural biases encountered by investors in Kerala, ultimately resulting in improved investment performance.

Chapter 7: Measures the mediating role of risk tolerance in the relationship between investment personality traits and investment performance. This chapter also examines the level and causal connection between investment performance and reinvestment decisions of equity investors in Kerala. In the chapter identified that there is a positive

mediation effect (partial mediation) between the personality traits of equity investors and their investment performance via risk tolerance. The improvement in investment success of investors is associated with their reinvestment decisions.

Chapter 8: This chapter presents a brief summary of all chapters and major findings of the study.

Chapter 9: This chapter presents suggestions based on the findings of the study, scope for future research, and implications of the research work

8.3 FINDINGS OF THE STUDY

The findings of this study are summarized in to following parts (1)Socio demographic features of the respondents(2)Investment behaviour of the equity investors in Kerala(3)Investment personality of the investors(4)Demographic factotres and personality of investors(5) Personality and behavioural factors of the investors (6)Relationship between personality traits and emotional intelligence of the investors(7)Socio economic factotres and behavioural biases of the respondents (8)Mediating effect of behavioural biases in the relationship between emotional intelligence and investment Performance (9) Mediating role of risk Tolerance in relationship personality traits and investment performance .

8.3.1-SOCIO DEMOGRAPHIC FEATURES OF THE RESPONDENTS: -

1. The study shows that ,91.3% of investors who participated in the research are male, while 8.7% are female. Therefore, the majority of investors who took part in the survey are men. Overall, the result shows that men predominantly transact in financial markets compared to women. This shows that men are more willing to take risks and are more interested in stock trading.
2. From the survey 41.3% (172) of the investors are under the age of 36 yrs . 37.5% (156) of respondents fall between the age groups of 36 to 45 years. The 46–55 age group of investors represent only 13.5% (56). Only 7.7% belong to the age category of above 56 years. This shows that the majority of investors who trade on the financial market are young and working age.

3. With regard to educational qualifications, 36 (8.7%) had school education, 236 (56.7%) had graduation, 80 (19.2%) had postgraduate degrees, and 64 (15.4%) had professional degrees. Investors with high educational qualifications invest more in shares than others
4. Most of the investors were married (75%), and the rest were single (25%).
5. The occupations of the sample respondents are diverse. 60.1% of the respondents belong to salaried groups. 27.4% of them are businessmen; 9.6% of them are professionals; and only 2.9% are retired. Overall, the study reveals that the majority of investors fall into the fixed-income category.
6. The survey result shows that 34.1% of the respondents have an annual income below Rs. 500,000. 36.5% of them fall in the 500000–10,00000 annual income bracket, 18.3% belong to the income category of 10,00001–15,00000, and 11.1% of the respondents have income above 1500000. This shows that the majority of the respondents are in the middle-income group .
7. Experience-wise classification of the respondents shows that 19.7% have less than one year of experience in the stock market. 32.7% have an experience of 1-3 years, 26% have an experience of 3-6 years, 12.5% have an experience of 6-9 years, and only 9.1% have an experience of above 9 years. This shows that the majority have less experience in the stock market.

8.3.2 INVESTMENT BEHAVIOUR OF THE EQUITY INVESTORS IN KERALA

1. The majority of investors have an investment size between 1,00,000- 5,00,000. Only 19.2% of the investors have an investment size of more than 10,00,000.
2. 51% of the investors hold securities for more than one year ,19 % of them hold shares for 6-12 month, 17.3% hold shares for less than 3 months.
3. While evaluating the trading frequency of the respondents, it was found that 38% of the investors occasionally purchase shares. 17.3% purchase shares daily; 19.7% purchase shares weekly. Only 7.7% purchase shares many times in a day.

4. While analyzing the time spend for investment analysis of investors it is found that the 35 % of the respondents spend 4-6 hrs. a week for updating their stock market information, 30.8% spend 2-4 hrs. for investment analysis.
5. The study reveals that the 31.7% depend on fundamental analysis data before investing in stock market, 17.3% depends on technical analysis and 30.8% believe in self-analysis.

8.4 PERSONALITY TRAITS AND EMOTIONAL INTELLIGENCE OF EQUITY INVESTORS IN KERALA.

Objective I: To investigate the personality traits and emotional intelligence of Equity investors in Kerala.

To measure this objective, various statistical methods were employed, including descriptive statistics such as the mean and standard deviation, as well as inferential analyses such as the one-sample t-test, independent t-test, and one-way analysis of variance with Tukey's HSD post hoc analysis.

8.4.1 THE INVESTMENT PERSONALITY TRAITS EXHIBITED BY EQUITY INVESTORS IN KERALA

Equity investors in Kerala show above-average levels of Agreeableness, Extraversion, Neuroticism, Conscientiousness, and Openness personality traits while trading in stocks. The mean scores value shows that investors exhibit higher levels of Conscientiousness (3.75) as an investment personality trait while taking investment decisions then followed by Agreeableness traits (3.73), Openness (3.68), Extraversion (3.57), and Neuroticism (3.11).

8.4.2 DEMOGRAPHIC FACTORS AND PERSONALITY TRAITS OF EQUITY INVESTORS IN KERALA

8.4.2.1 Gender and personality traits:

The study reveals that there is no significant difference between the various investment personality traits of Equity investors in Kerala and their gender. That is, male and female investors are equal in terms of agreeableness, extraversion,

neuroticism, and conscientiousness personality traits. Male investors appear to have a more open attitude than female investors while investing in the stock market.

8.4.2.2 Age and personality traits of equity investors

Investors within different age categories are not the same in the case of their various personality traits, such as agreeableness and extraversion. Middle-aged investors with an age category of 36–45 years are more agreeable than youngsters. Investors under the age of 36 are more likely to exhibit extroversion traits. Various investment personality traits, such as neuroticism, conscientiousness, and openness, do not significantly differ based on the age group of the investors.

8.4.2.3 Education and personality traits of equity investors

Personality traits such as extroversion, neuroticism and openness are not equal among equity investors in different educational categories. Different educational backgrounds and investment personality traits of investors, such as agreeableness and conscientiousness, do not significantly differ from one another.

Investors with higher education have a more extraverted personality than those who have a low level of educational qualification. Investors with low levels of educational qualifications exhibit openness traits. Investors with undergraduate degrees are more open-minded than those with postgraduate degrees.

8.4.3 THE EMOTIONAL INTELLIGENCE OF EQUITY INVESTORS IN KERALA

The study reveals that investors exhibit a higher level of empathy (3.70), followed by Self-awareness (3.68), Social skills (3.56), Motivating oneself (3.49), and Self-management (3.45). as components of emotional intelligence.

8.4.4 EMOTIONAL INTELLIGENCE AND DEMOGRAPHIC PROFILE OF THE INVESTORS

8.4.4.1 Gender and emotional intelligence

In Kerala, there exists a gender difference in elements of emotional intelligence such as empathy, self-motivation, self-management, and social competence. Men and

women exhibit equal levels of self-awareness. But male investors have greater empathy, self-motivation, self-management, and social skills than female investors which enable them to make wise investment decisions.

8.4.4.2 Age and emotional intelligence

Investors within various age groups vary in terms of their emotional intelligence factors such as self-awareness, empathy, motivating oneself, self-management, and social skills when making investment decisions. Investors with more than 55 years ,have more self-awareness than those in the age group of 36 to 45yrs . Investors in the age category of 46 to 55 years old are more capable of motivating themselves than those in all other age groups. Older investors exhibit greater empathy while investing than youngsters. Investors in the age range of 46 to 55 have greater social skills than youngsters.

8.4.4.3 Educational qualification and Emotional intelligence

Investors with various educational qualifications are different in terms of their emotional intelligence factors, such as motivating themselves, self-management, self-awareness, and social skills. Investors with low educational qualifications are more self-motivated than those with higher educational qualifications. They have stronger social skills, which will benefit their stock market investments compared to those with higher educational qualifications. Investors who have undergraduate degrees are better able to manage their stock market investments and are more self-aware than those with postgraduate degrees. It is asserted that there is no observable relationship between the empathy of Equity investors in Kerala and their educational qualifications.

8.4.5 PERSONALITY AND BEHAVIOURAL BIASES OF THE INVESTORS

8.4.5.1 Relationship between openness personality traits and Behavioural biases

The study reveals that investors who exhibit a higher degree of openness as a personality trait tend to show a greater propensity for both overconfidence bias and

loss aversion bias while making investment decisions as compared to investors with low levels of openness.

8.4.5.2 Relationship between conscientiousness personality traits and Behavioural biases

There is no significant distinction between investors who possess a high level of conscientiousness and those with a low level of conscientiousness and their Behavioural biases, such as overconfidence bias, herd bias, anchoring bias, and representativeness bias.

Individuals with a high level of conscientiousness as a personality trait exhibit a higher prevalence of cognitive dissonance bias, availability bias, and loss aversion bias

8.4.5.3 Relationship between extraversion personality traits and behavioral biases

Equity investors with a high level of extraversion exhibit high levels of overconfidence bias, herd bias, anchoring bias, and availability bias, while investors with a low level of extraversion trait exhibit high levels of representativeness bias while investing in the stock market.

8.4.5.4 Relationship between agreeableness personality traits and behavioral biases

The mean score shows that investors with higher levels of agreeableness personality traits are more likely to exhibit overconfidence bias, herd bias, and anchoring bias. Investors with low levels of agreeableness personality traits are more likely to exhibit availability biases.

8.4.5.5 Relationship between neuroticism personality traits and behavioral biases

There is a significant distinction between investors exhibiting high and low levels of neuroticism with regard to their behavioural biases. Individuals with a high level of the neuroticism personality trait exhibit a greater prevalence of cognitive dissonance bias and representativeness bias while making investment decisions..

8.4.6 ASSOCIATION BETWEEN INVESTMENT PERSONALITY TRAITS AND EMOTIONAL INTELLIGENCE

8.4.6.1 Openness personality traits and emotional intelligence

Investors who have high levels of openness personality traits are more likely to exhibit high levels of empathy, self-motivation, self-management, self-awareness, and social skill than those who have low levels of openness personality traits.

8.4.6.2 Conscientiousness personality traits and emotional intelligence

There is no difference in emotional intelligence traits of investors with high and low levels of conscientiousness with regard to their emotional intelligence factors, such as empathy, self-motivation, self-management, self-awareness, and social skill.

8.4.6.3 Extraversion personality traits and emotional intelligence

According to the findings, investors with high levels of extraversion and those with low levels of extraversion have different emotional intelligence traits, such as empathy and self-motivation. There is a positive relationship between investors with a high level of extraversion and their levels of self-management, self-awareness, and social ability.

8.4.6.4 Agreeableness personality traits and emotional intelligence

Investors with high levels of agreeableness are more likely to have a high level of emotional intelligence. This is because agreeableness trait has a positive association with emotional intelligence.

8.4.6.5 Neuroticism personality traits and emotional intelligence

The study reveals that there is no significant difference between investors with high- and low-level neuroticism personality traits with regard to their factors of emotional intelligence such as empathy, motivating oneself, self-management, and self-awareness. Investors with a low level of neuroticism are more likely to have high levels of social skills than those with a high level of neuroticism.

8.5 THE LEVELS OF BEHAVIORAL BIASES DISPLAYED BY EQUITY INVESTORS IN KERALA.

Objective II: To examine the levels of behavioral biases displayed by Equity investors in Kerala.

To achieve this objective, the level of behavioral biases of Equity investors and their various socio-demographic and economic profiles were assessed. For this, quadratic settings, percentage analysis, and chi-square tests for goodness of fit and association are used.

Behavioural biases are mainly classified into two categories: cognitive biases and emotional biases. Cognitive biases include representativeness bias, cognitive dissonance bias, anchoring bias, and availability bias. Emotional biases include loss aversion bias, overconfidence bias, and herd bias. The standardised beta coefficient shows that emotional biases (0.72) are the most prominent form of behavioural bias exhibited by equity investors in Kerala in Kerala, followed by cognitive bias (0.67).

Based on standardized beta coefficients, representativeness bias (0.89) is the major cognitive bias exhibited by equity investors, followed by anchoring bias (0.81), availability bias (0.75), and cognitive dissonance bias (0.42). All this shows that investors in Kerala are highly affected by representativeness bias in comparison to other biases when making investment decisions.

8.5.1 SOCIO-ECONOMIC FACTORS AND BEHAVIORAL BIASES

8.5.1.1 Gender and Behavioural biases

1. The findings suggest that male investors in stock markets in Kerala exhibit a high level of overconfidence bias compared to their female counterparts. Baker et al. (2018), through their study, found that female investors are less confident than male investors. The findings supported by the other well-known researchers such as Barber and Odean (2001), Bhandari and Deaves (2006), Lin (2011), and Kumar and Goyal (2016), the findings reveal that male investors will be more confident than female investors. Female investors are more afraid to take risks,

which affects their level of confidence when making investment decisions. Syarkani, Y., and Alghifari, E.S. (2022), through their study, reveal that men have superior abilities in processing information and making judgments than women, so males are more overconfident than women.

2. While analyzing the gender and herd biases of the investors it is found that male investors are more overconfident than female investors in Kerala. The findings support the researcher of Prosad et al. (2015), herding biases cause investors to make decisions about their investments based on what others are doing. Nair et al. (2017) identified that female investors are more likely to exhibit herd biases than male investors. According to Lin (2011) women are more likely than men to exhibit a herding tendency.
3. Male equity investors are more assertive by nature than female investors. while women are more comfortable following the thoughts and ideas of others (Feingold, 1994). Women investors were shown to be more risk-averse than men investors, according to research by Chavali and Raj (2016). Women investors are less confident and have a risk-averse mindset when making financial decisions; therefore, men investors take more risky investment decisions. (Heath & Tversky, 1991). Both Lin (2011) and Hon-Snir et al. (2012) discovered a negative relationship between men and herding behaviour. Male Equity investors in Kerala frequently have lower levels of representativeness bias than female investors, who are more likely to display higher levels of representativeness bias.
4. Female equity investors in the stock market typically display lower levels of anchoring bias than male investors, who are more likely to display higher levels of anchoring bias. The findings positively correlated with the studies of Dr. Renu Isidore. R(2018). In case of availability bias, female Equity investors in Kerala exhibit a greater level of availability bias compared to male investors. The findings positively correlated with the studies of Dr. Renu Isidore. R(2018)
5. Based on the investigation, male investors demonstrate more cognitive dissonance bias than female investors because they trade frequently and sometimes refuse to admit their faulty decisions. They don't learn from their

mistakes and don't recognize the impact of their poor investment choices, and in the future they will also make irrational decisions. The findings of the study support the studies of Fatima (2019).

6. Male investors have a lower degree of loss aversion bias, but female investors have a higher level of loss aversion bias. The results support the researcher's findings, such as Dr. A. K. Das Mohapatra's (2020) finding that female risk-seeking investors are more loss-averse than male investors in the Indian stock market. The study confirms earlier findings by Dr. Renu Isidore (2018) that women invest less and behave more loss-aversely than men. Women are also found to be more loss-averse than men (Schmidt and Traub, 2002; Gächter et al., 2007; Rieger et al., 2011).

8.5.1.2 Educational qualification and behavioural biases

Professionally qualified investors are the least affected by representativeness bias, whereas respondents with educational qualifications below HSE are highly affected by this bias. Anchoring bias is highest among postgraduates and lowest among investors who have educational qualifications below HSE. Investors with undergraduate degrees are highly affected by herd biases, whereas those who are professionally qualified are least affected by these biases. Loss aversion biases are highly affected by those investors whose educational qualifications are below HSE, and this bias is highest among undergraduates.

8.5.1.3 Income and Behavioral Biases

Investors with annual incomes up to Rs 500,000 are more prone to herd bias; this shows that lower-income people are highly affected by herd biases.

High-income investors have high anchoring biases. Whereas investors with low incomes are less affected by these biases. Investors with annual incomes above 15,00,000 are more likely to exhibit low-level availability bias, whereas those with annual incomes up to 5,00,000 are more likely to exhibit high-level availability bias. High levels of cognitive dissonance bias are exhibited by those investors whose yearly incomes are between Rs 5,00,001 and Rs 10,00,000. Investors with annual incomes

of Rs 5,00,001 to Rs 10,00,000 are more likely to have a high-level loss aversion bias. Investors with annual incomes of 10,00,001 to 15,00,000 are least affected by loss aversion biases.

8.5.1.4 Age and behavioral biases

1. Age-wise analysis shows that overconfidence bias, herd bias, anchoring bias, representativeness bias, loss aversion bias, availability bias, and cognitive dissonance biases show significant differences among different age categories of investors.
2. The study shows that older investors are more affected by herd biases than youngsters; investors with an age above 55 exhibits more overconfidence than those with an age below 36 years. According to the research findings of Prosad et al. (2015), older investors are more confident than middle-aged investors. It is believed that older people have a broad knowledge and understanding of investing compared to others.
3. Investors in the age group of 46 to 55 exhibit a stronger anchoring bias than other age groups. Availability biases are highly affected by middle age groups such as the 36 to 45 category, whereas this bias is least affected by the age groups below 36 years. Investors between the ages of 46 to 55 yrs have a lesser representativeness bias in stock market investment, but investors between the ages of 36 to 45 yrs have a higher representativeness bias.
4. In the case of cognitive dissonance biases, older investors are more likely to exhibit cognitive dissonance biases than youngsters

8.5.1.5 Behavioural biases and trading experience

The study indicates that investors with more than nine years of experience are highly affected by overconfidence biases, availability biases and herd bias. Where as those with 3 to 6 years of experience demonstrate lower levels of herd bias.

Investors who have experience of up to 1 year are least affected by availability biases. Investors with 1 to 3 years of experience demonstrate high levels of representativeness

bias. Loss aversion bias is more common among investors with experience of 6 to 9 years. Least experienced investors are affected by anchoring biases and representativeness biases.

8.6 MEDIATING ROLE OF BEHAVIOURAL BIASES IN THE RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE AND INVESTMENT PERFORMANCE.

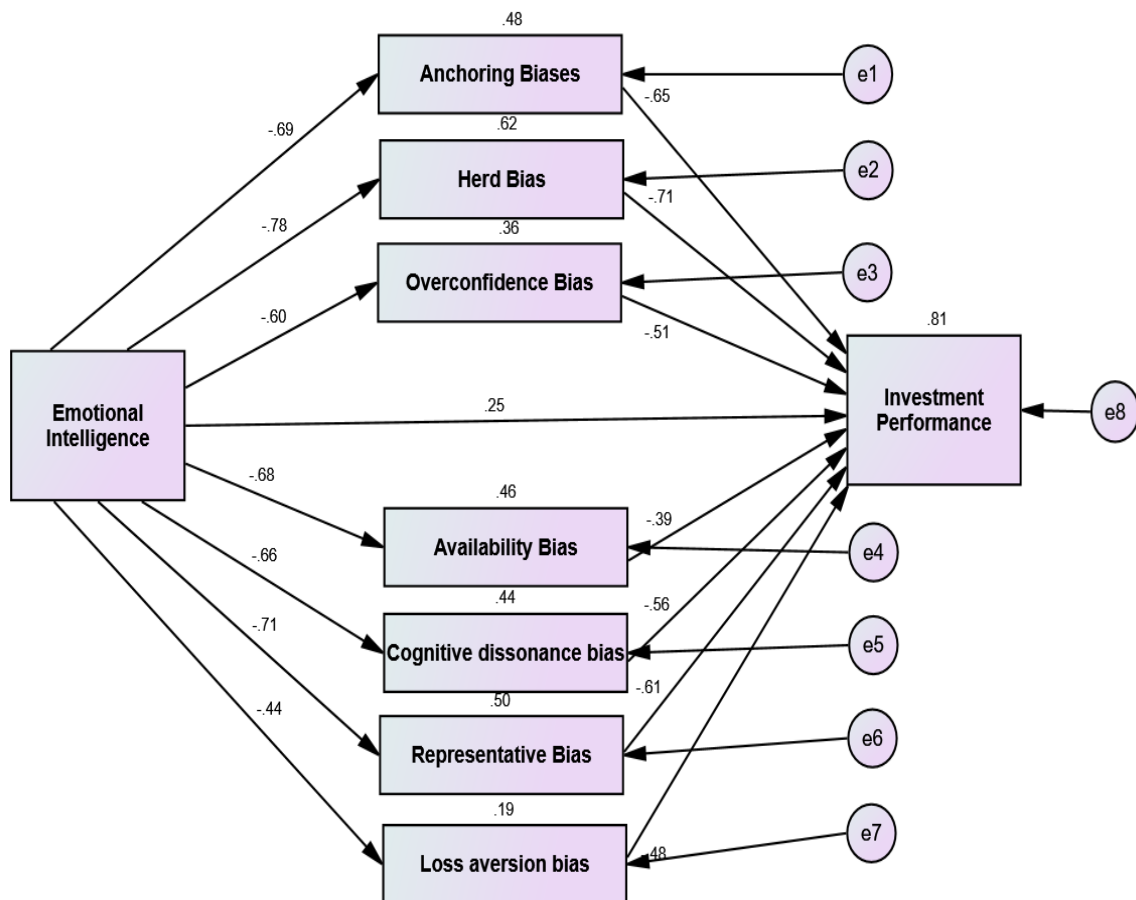
Objective III: To examine the mediating effects of behavioural biases in the relationship between emotional intelligence and investment performance.

The researcher formulated a total of twenty-two research hypotheses, which encompassed seven mediation hypotheses, relying upon previous empirical research studies. The researcher developed a hypothesized model, consisting of hypotheses, to examine the relationship between emotional intelligence and investment performance using behavioural biases as mediators among Equity investors in Kerala. The model was evaluated using a statistical technique known as Co-variance Based Structural Equation Model (CB-SEM). The test outcomes yielded the following results.

1. The investment performance of Equity investors in Kerala are directly influenced by their level of emotional intelligence. It indicates that emotional intelligence of the investors in Kerala will help them to make improvement in their investment performance.
2. The presence of various behavioral biases among Equity investors in Kerala, such as anchoring bias, herd bias, overconfidence bias, availability bias, cognitive dissonance bias, representativeness bias, and loss aversion biases, has a direct adverse effect on their investment performance. This implies that if these biases become more prevalent among individuals, their investment performance would be reduced.
3. The prevalence of emotional intelligence among Equity investors in Kerala holds promise in mitigating the behavioral biases they experience, such as anchoring bias, herd bias, overconfidence bias, availability bias, cognitive dissonance bias, representativeness bias, and loss aversion biases.

4. The most significant exploration of this study indicates that despite the presence of behavioral biases among Equity investors in Kerala, which could potentially harm their investments, their emotional intelligence serves as a mitigating factor for this issue. Emotional intelligence can serve as a mediator, mitigating the adverse impact of behavioral biases and enhancing investment performance of the Equity investors in Kerala. It indicates that the emotional intelligence of Equity investors in Kerala will lead to a reduction in their behavioral biases, ultimately resulting in improved investment performance. In Kerala, the issue of behavioral biases among Equity investors is predicted to be mitigated due to their elevated levels of emotional intelligence. Hence, the issue associated with behavioral biases observed among investors in Kerala can potentially be mitigated through the cultivation of adequate levels of emotional intelligence among the investors. The diagram given illustrates the graphical depiction of the relationship between emotional intelligence and investment performance, with Behavioural biases serving as a mediating factor among Equity investors in Kerala.

Structural Equation Model for stock market in Kerala that examine the mediating role of behavioral biases in the relationship between emotional intelligence and investment performance.



All hypotheses put forth in this study were found to be supported. The subsequent table presents a summary of the results obtained from all hypotheses testing.

Table 6.1

Result summary of hypothesis testing including mediation analysis

Hypotheses No.	Hypotheses of the model developed	Result of Hypotheses testing
SM.H1	Emotional intelligence has a positive effect on investment performance.	<i>Supported</i>
SM.H2	Emotional intelligence has a negative effect on anchoring bias	<i>Supported</i>
SM.H3	Emotional intelligence has a negative effect on herd bias.	<i>Supported</i>
SM.H4	Emotional intelligence has a negative effect on overconfidence bias	<i>Supported</i>

Hypotheses No.	Hypotheses of the model developed	Result of Hypotheses testing
SM.H5	Emotional intelligence has a negative effect on availability bias.	<i>Supported</i>
SM.H6	Emotional intelligence has a negative effect on cognitive dissonance bias.	<i>Supported</i>
SM.H7	Emotional intelligence has a negative effect on representativeness bias.	<i>Supported</i>
SM.H8	Emotional intelligence has a negative effect on loss aversion bias.	<i>Supported</i>
SM.H9	Anchoring bias has a negative effect on investment performance.	<i>Supported</i>
SM.H10	Herd bias has a negative effect on investment performance.	<i>Supported</i>
SM.H11	Overconfidence bias has a negative effect on investment performance.	<i>Supported</i>
SM.H12	Availability bias has a negative effect on investment performance.	<i>Supported</i>
SM.H13	Cognitive dissonance bias has a negative effect on investment performance.	<i>Supported</i>
SM.H14	Representativeness bias has a negative effect on investment performance.	<i>Supported</i>
SM.H15	Loss aversion bias has a negative effect on investment performance.	<i>Supported</i>
SM.MH16	Anchoring bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH17	Herd bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH18	Overconfidence bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH19	Availability bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>

Hypotheses No.	Hypotheses of the model developed	Result of Hypotheses testing
SM.MH20	Cognitive dissonance bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH21	Representativeness bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>
SM.MH22	Loss aversion bias has a mediating role in the relationship between emotional intelligence and investment performance	<i>Supported</i>

Structural Model Hypotheses are denoted by SM.H1 to SM.H16; Mediation Hypotheses are denoted by SM.MH16 to SM.MH22.

The major finding made by the study regarding the extent to which emotional intelligence capacity possessed by investors can lessen behavioral biases and the extent to which behavioral biases are harmful to the investment performance of investors

1. The level of emotional intelligence possessed by Equity investors in Kerala can minimize the amount of herd bias by 62%, representativeness bias by 50%, anchoring bias by 46%, availability prejudice by 46%, cognitive dissonance bias by 44%, overconfidence bias by 36%, and loss aversion bias by just 19%. It is a sign that the emotional intelligence of investors in Kerala might greatly minimize the herd bias while minimally decreasing the loss aversion bias.
2. The overall investment performance would suffer a decrease of 81% as a result of several behavioral biases, such as anchoring bias, herd bias, overconfidence bias, availability bias, cognitive dissonance bias, representativeness bias, and loss aversion biases. Herd bias is more harmful in reducing the investment performance of investors, followed by anchoring bias, representativeness bias, cognitive dissonance bias, overconfidence bias, loss aversion bias, and availability bias.

8.7 THE MEDIATING ROLE OF RISK TOLERANCE IN THE RELATIONSHIP BETWEEN INVESTMENT PERSONALITY TRAITS AND THE INVESTMENT PERFORMANCE OF EQUITY INVESTORS IN KERALA.

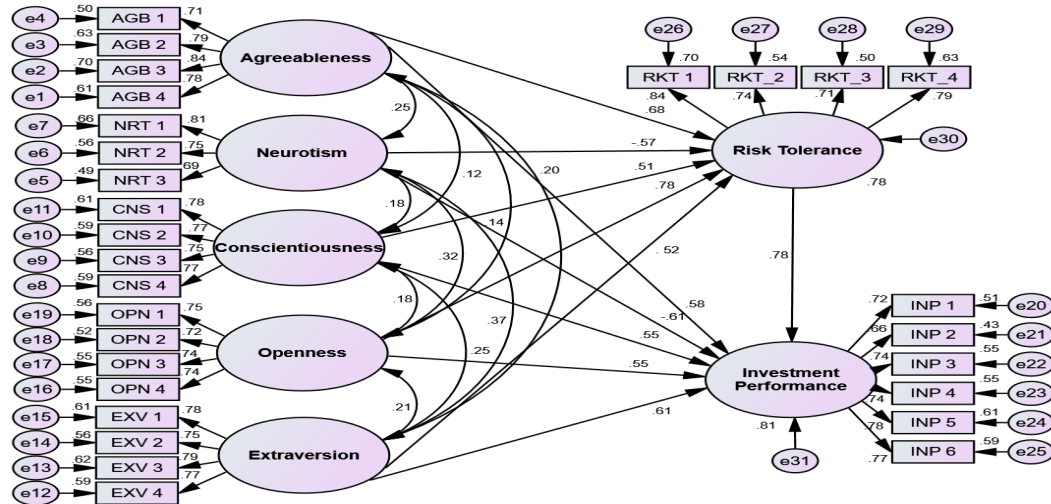
Objective IV: *To examine the mediating role of risk tolerance in the relationship between investment personality traits and the investment performance of Equity investors in Kerala.*

To measure the mediating role of risk tolerance in the relationship between investment personality traits and the investment performance of investors, the researcher formulated fifteen research hypotheses, which include five hypotheses to examine the relationship between personality and investment performance, five hypotheses to measure the personality traits and risk bearing capacity of the investors and five hypotheses to measure the mediating role of risk tolerance in the relationship between investment personality and investment performance. The bootstrapping method was used to evaluate the mediation effect (indirect effect) in the model.

1. The investment performance of investors is directly influenced by their personality traits. It reveals that the balanced personality traits of the investors will help them increase their investment performance.
2. The most significant exploration of this study is that investors with good personality traits have a high risk-bearing capacity, which leads to better investment performance. While investors with negative personalities have poor risk-bearing capacity, which leads to poor investment performance.
3. Risk-bearing capacity exists as a mediator in the relationship between personality traits and investment performance. While increasing the risk-bearing capacity of the investors, their investment performance also increased.

The diagram given illustrates the graphical depiction of the relationship between personality traits and investment performance, with risk bearing as a moderating factor among Equity investors in Kerala.

Mediation model to examine the indirect relationship between personality traits and investment performance, specifically through the mediating factor of risk tolerance.



Summary of the results obtained from the hypotheses testing.

SI. No.	Hypotheses	Result of hypothesis Testing
MEH.1	Agreeableness personality trait has a positive and direct effect on investment performance.	Supported
MEH.2	Neurotism personality trait has a negative and direct effect on investment performance.	Supported
MEH.3	Conscientiousness personality trait has a positive and direct effect on investment performance.	Supported
MEH.4	Openness personality trait has a positive and direct effect on investment performance.	Supported
MEH.5	Extraversion personality trait has a positive and direct effect on investment performance.	Supported
MEH.6	Agreeableness personality trait has a positive and direct effect on risk tolerance	Supported
MEH.7	Neurotism personality trait has a negative and direct effect on risk tolerance.	Supported
MEH.8	Conscientiousness personality trait has a positive and direct effect on risk tolerance.	Supported
MEH.9	Openness personality trait has a positive and direct effect on risk tolerance.	Supported

SI. No.	Hypotheses	Result of hypothesis Testing
MEH.10	Extraversion personality trait has a positive and direct effect on risk tolerance.	Supported
MEH.11	Risk tolerance plays mediating role in the relationship between agreeableness personality traits and investment performance.	Partial mediation
MEH.12	Risk tolerance plays mediating role in the relationship between neurotism personality traits and investment performance.	Partial mediation
MEH.13	Risk tolerance plays mediating role in the relationship between conscientiousness personality traits and investment performance.	Partial mediation
MEH.14	Risk tolerance plays mediating role in the relationship between openness personality traits and investment performance.	Partial mediation
MEH.15	Risk tolerance plays mediating role in the relationship between extraversion personality traits and investment performance.	Partial mediation

1. There is a positive relationship between the personality traits of Equity investors in Kerala and their investment performance. Investors with personality traits such as agreeableness, conscientiousness, openness, and extraversion have the ability to manage their investments properly. As a result, individuals who possess these traits are more inclined to attain good investment performance.
2. Investors with neurotic personality traits have a poor return on their investments, which leads to poor investment performance. Their risk-bearing capacity is also very low.
3. The capacity to take risks is associated with investment performance in the stock market. The study reveals that investors with a high level of risk tolerance succeed in the stock market.
4. The results of the mediation test reveal that there is a positive relationship between risk tolerance and investment performance of the investors, and the study

also explores the fact that there is a direct relationship between personality traits and investment performance of the investors. In addition to the direct relationship between personality traits and investment performance, there is an indirect relationship mediated by the risk tolerance capacity of investors.

8.8 CAUSAL CONNECTION OF INVESTMENT PERFORMANCE AND REINVESTMENT DECISIONS OF EQUITY INVESTORS IN KERALA.

Objective 5 : To analyse the levels and causal connection of investment performance and reinvestment decisions of Equity investors in Kerala.

In order to accomplish this objective, many statistical methods are employed, such as Quartile settings, Percentage Analysis, and Chi-Square tests for goodness of fit and association.

The equity investors in Kerala are experiencing a moderate level of performance on their investments. There is no difference among the levels of reinvestment decision of equity investors in Kerala.

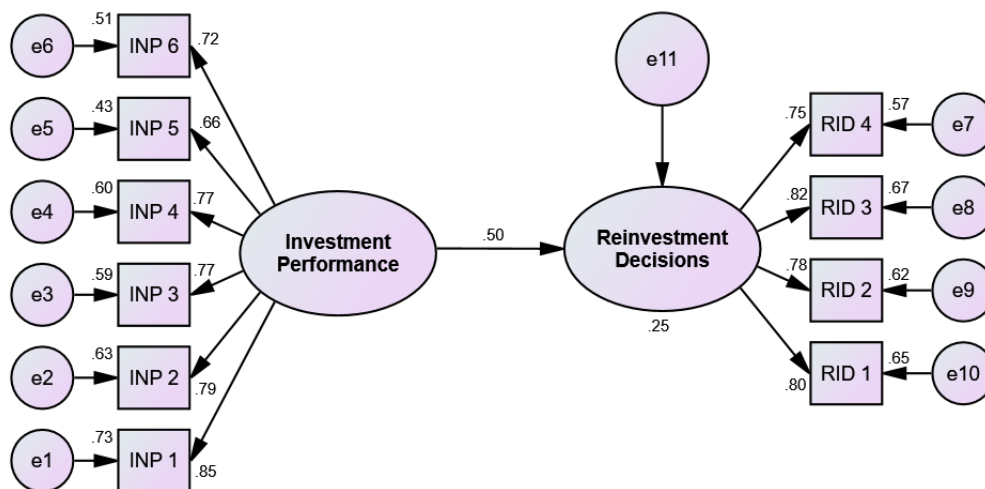
8.8.1 Socio-demographic and economic profiles of investors and Level of investment performance .

1. The study reveals that low level of investment performance is higher among female investors while high level investment performance is more frequent among male investors. It shows that better investment performance is enjoyed by the male investors than female investors
2. Investors under the age of 36 are more likely to attain a low-level of investment performance, whereas investors between the ages of 36 to 45 yrs are more likely to reach high-level investment performance. The results show that investors in the ages of 36 to 45 attain higher investment performance.
3. Low level of investment performance is more frequent among investors with qualification of up to HSE while, high level investment performance is more common among investors with professional degree.

4. Investors with annual incomes of up to 5,00,000 are more likely to obtain low level investment performance, whereas those with annual incomes of 10,00,001 to 15,00,000 are more likely to secure high level investment performance. Because of this, equity investors in Kerala with annual incomes between 10,00,001 to 15,00,000 are securing greater investment performance than those with annual incomes up to 5,00,000, 5,00,001 to 10,00,000, and above 15,00,000.
5. Equity investors with experience between 1-3 years attained lower levels of investment performance, while those with experience over nine years were more likely to reach high levels of performance in their stock market investments.
6. Female equity investors in Kerala tend to make fewer reinvestment decisions, while male investors are more likely to make more reinvestment decisions. The data imply that male investors make more decisions about reinvesting their holdings than female investors.
7. Investors below 36 yrs are more likely to make low-level reinvestment decision, whereas investors between the ages of 46 to 55 are more likely to make high-level reinvestment decision. The findings reveal that Equity investors in Kerala between the ages of 46 to 55 yrs exhibit greater reinvestment decision-making than those between the ages 36 to 45 yrs .
8. Equity investors with professional qualifications are more likely to declare reinvesting their assets than those with HSE, undergraduate, and graduate degrees.
9. Investors with yearly incomes between 5,00,001 to 10,00,000 have lower levels of reinvestment decision, whereas those between 10,00,001 to 15,00,000 are more likely to feel high levels of reinvestment decision in their stock market investments. Investors with annual earnings between 10,00,001 to 15,00,000 are more likely to engage in reinvestment than investors with annual incomes of less than 5,00,000, between 5,00,001 to 10,00,001, and greater than 15,00,000.

10. Equity investors with experience of 3 to 6 years make lower levels of reinvestment decision, whereas those with experience of 1 to 3 are more likely to feel high levels of reinvestment decision in their stock market investments.

Structural Equation modelling for assessing the causal connection between investment performance and reinvestment decisions of Equity investors in Kerala.



The SEM analyses shows that a one-unit increase in the standard deviation of investment performance corresponds with a 0.50 increase in the reinvestment decision made by investors. This implies that an improvement in the investment success of investors is associated with a higher likelihood of their subsequent reinvestment selections in the stock market.

8.9 Conclusion

Behavioural finance is the study of psychological aspects of investor behaviour. In India, retail investors' participation in the stock market is very low. Most of the time, investors are irrational and impatient. This kind of irrationality of investors affects the entire market, and due to such irrationality of investors, there is some sudden up and down change in stock values. Traditional economic theories say that investors always act in a rational manner while making investment decisions. But many research studies across the world prove that human beings have limited cognitive abilities.

They are affected by various behavioural biases. In risky and uncertain situations, they make emotional decisions due to some cognitive and emotional biases. The majority of them make investment decisions without the support of correct investment information. High volatility in the stock market and the desire to get a huge return in a short span of time sometimes encourage investors to make irrational decisions. There are lots of factors that affect the investment decisions of equity investors. Demographic features, personality traits, risk-bearing capacity, etc. are some of the factors that affect one's investment decision.

The present study tries to answer the following questions: Are emotional intelligence and investment performance related in any way?, Do behavioural biases moderate the relationship between emotional intelligence and investment performance? Does risk tolerance play a mediating role in the association between investment personality factors and the investment performance of the stock? What is the level of investment performance of Equity investors in Kerala? Does the socio-demographic background of the investors affect investment performance among equity investors? Are the equity investors in Kerala ready to make reinvestment in the stock market? Does equity investors' decision to reinvest have any influence on their socioeconomic and demographic settings? What is the effect of investment performance on the reinvestment decisions of equity investors in Kerala? The following are the important findings of the study.

The mean score value shows that investors with higher levels of empathy (3.70), self-awareness (3.68), social skills (3.56), motivating themselves (3.49), and self-management (3.45) are components of emotional intelligence when they are involved in investment decision-making. Overconfidence and anchoring bias are more prevalent Behavioural biases among equity investors with a high level of agreeableness personality trait, while availability bias is more common among investors with a low level of agreeableness personality trait. Equity investors who have a high level of agreeableness also have a high level of empathy, self-motivation, self-management, and self-awareness.

There is no significant difference between investors with high and low levels of conscientiousness with regards to their emotional intelligence factors; investors who have a low level of neuroticism are more likely to have high levels of social skills than those who have a high level of neuroticism.

Emotional biases are the most prominent form of behavioral bias exhibited by equity investors in Kerala, followed by cognitive bias. In cognitive biases, representativeness bias is the major cognitive bias exhibited by the Equity investors in Kerala, followed by anchoring bias, availability bias, and cognitive dissonance bias. The main emotional bias demonstrated by equity investors in Kerala is overconfidence bias, followed by loss aversion bias and herd bias.

The findings of the study indicate a significant and positive causal connection between perceived emotional intelligence and investment performance. Additionally, the study reveals a significant and negative causal connection between emotional intelligence and investment performance, which is mediated by the Behavioural biases of stock market participants in Kerala. Investors in Kerala might have emotional intelligence, which could potentially help them overcome their behavioral biases and make better investment performance. Ultimately, reducing investors' behavioral biases will lead to improved investment performance in the future.

There is a statistically significant positive relationship between the personality traits of Equity investors in Kerala and their investment performance. There is also a positive indirect effect, specifically a mediation effect, between all personality traits of investors (except those with neurotic traits) and investment performance, mediated through risk tolerance. The presence of partial mediation suggests that there exists a statistically significant association between the mediator, namely risk tolerance, and the dependent variable, which is investment performance. Additionally, there is evidence of a direct relationship between the independent variable, specifically personality traits, and the dependent variable, investment performance. In addition to the direct relationship between personality traits and investment performance, there exists an indirect relationship mediated by the risk tolerance capacity of investors.

Equity investors in Kerala with particular personality traits, such as agreeableness, openness, and extraversion have the capacity to take adequate risks with reference to the investment in the stock market. They have a greater capacity to tolerate risk, which will increase the likelihood of an improvement in the performance of their investments.

The study has unmistakably established that equity investors in Kerala are experiencing a moderate level of performance on their investments. While evaluating the gender-wise difference, it was found that a low level of investment performance is higher among female investors, while a high level of investment performance is more frequent among male investors. The study concludes that an improvement in the investment success of investors is associated with a higher likelihood of their subsequent reinvestment selections in the stock market

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Chapter 9

Recommendations and Scope for Further Research

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9.1 INTRODUCTION

While investing in the stock market, investors' psychology plays a very important role. Behavioural finance explains how investors' psychology impacts their financial decisions and how it affects market volatility. The fastest growth of the financial market, extreme volatility and uncertainty in the market, the complexity and novelty of financial products and services, etc. may lead investors to make irrational investment decisions in the stock market. The majority of investors are affected by various behavioral biases in their trading. The present study is drawn from the assumption that the personality traits, emotional intelligence factors and risk-bearing capacity of the investors are highly correlated. So the researcher makes an attempt to analyse how all these factors lead to various behavioral biases among the equity investors. The first chapter discusses the scope and significance of the study. The second chapter explains literature reviews on similar topics, and the third chapter discusses the theoretical background of the study. The fourth chapter deals with the research methodology used for the study and the fifth chapter examines details about personality traits, emotional intelligence, and the social and economic profile of equity investors. The sixth chapter examines the mediating role of behaviour bias in the relationship between emotional intelligence and the investment performance of equity investors in Kerala. The seventh chapter measures the mediating role of risk tolerance in the relationship between investment personality traits and investment performance and the last chapter presents a brief summary of all chapters, the major findings of the study, and a conclusion. Based on all the findings of the study, this chapter gives recommendations for various stakeholder to mitigate their behavioural biases while trading in the stock market.

9.2 RECOMMENDATIONS

(1) To the investors

- Both emotional and cognitive biases have a negative impact on investment performance, so investors should take the necessary steps to reduce such biases. Awareness about behavioral biases helps investors to reduce the wrong investment decisions..
- Individual investors need to recognize the rumors that circulate in the stock market. So it is necessary to conduct their own research through fundamental and technical analysis to make the correct investment decision, rather than relying on the words of friends and colleagues.
- Research has shown that many investors are overconfident. The majority of investors believe they can beat the market. One major reason that investors may feel overconfident is that they get information very easily and can make fast decisions. However, sometimes information does not lead to wise decisions unless we know how to interpret it correctly. So investors should try to avoid these biases by being better informed.

(2) To the Policy Makers and Regulatory Agencies

- The investor awareness programme in the state is not very effective. The present study shows that 91.3% of the respondents are males and only 8.7% are females. So the regulators should take the necessary action to improve women's participation in stock trading.
- Investors with different personality traits invest in different avenues according to their needs. The companies should focus on the different personality traits and emotional intelligence of investors to link investor and investment.
- The investment companies should design their investment products according to the risk-taking capacity of the investors.

- SEBI and stockbroking firms should try to conduct more workshops to educate investors on the importance of security analysis and investment biases.

9.3 IMPLICATIONS OF THE STUDY

The present study contributes to the fields of behavioral finance and investor psychology and also helps to identify rationality among investors. The studies also help to understand various personality traits, emotional intelligence factors, and behavioural biases of investors and how these factors affect their financial decision-making. The study is useful for investors, asset management companies, and policyholders.

Practical implications

The findings of the study are useful for policymakers and financial companies because they can keep an eye on the various behavioral traits of investors before issuing securities. Investment advisors must be aware of the significant impact that investors' emotions have on their decision-making in order to provide them with appropriate advice that will protect their investment. They can also make use of this research to "create behavioral portfolios" according to their clients' personalities and levels of emotional intelligence.

Social implications

The results of the study also suggest that financial managers and investment advisors should consider personality traits and financial risk behaviors when giving advice to investors. Besides this, by providing financial literacy, they can induce individuals towards investment.

Studies on behavioral biases are still at an evolving stage in India. As new investors emerge in the stock markets, it is becoming more important to understand investor psychology in depth. So educational institutions should take the necessary steps to incorporate all this into their curriculum.

Managerial Implications

Financial managers and investment advisors should consider personality traits, emotional intelligence, behavioural biases, financial risk tolerance, and other factors while giving advice to clients. Besides this, they can conduct financial literacy campaigns for their clients to increase their financial knowledge.

Implications for government

The Government of India could use the result of the study to start more financial awareness programmes related to the stock market, along with the initiative of SEBI.

9.4 SCOPE FOR FURTHER RESEARCH

- The present study investigates the relationship between behavioural biases, personality traits, and emotional intelligence among equity investors in Kerala. In addition to these seven biases, more biases can be included for future research.
- The study can be expanded to more geographical locations. By doing so, we can measure the relationship between culture and the behavioural biases of the investors.
- Personality traits evolve over a period of time. As a result, cross-sectional analysis may not be possible to depict the experience of change in the model. So longitudinal studies, which continuously monitor the same sample of population across time, can be suggested for future research.
- A controlled and simulated environment can be used for an experimental investigation to capture the impact of behavioural biases among the respondents.
- Future research may be conducted to analyse how financial literacy on and risk tolerance impact on behavioural biases.
- Comparative studies can be conducted with various behavioural biases.
- Studies can also be conducted to measure the impact of biases in different stock markets.

- Research can also be done on various market anomalies in the stock market.
- The relationship between market efficiency and behavioural biases can be measured.
- The current study focused on individual investors, so future research can compare individual investors and institutional investors

9.5 Conclusion

The present chapter discusses recommendations based on the findings of the study. The implications of the study and the contribution of the research to the various stakeholders are also discussed here. The scope for future research was also discussed at the last session of the study. In short, it can be concluded that emotional biases are the most prominent form of behavioural bias exhibited by equity investors in Kerala, followed by cognitive bias. There is a statistically significant positive relationship between the personality traits and emotional intelligence of equity investors in Kerala and their investment performance. There is also a positive indirect effect, specifically a mediation effect, between all personality traits of investors (except those with neurotic traits) and investment performance, mediated through risk tolerance.

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Appendix

QUESTIONNAIRE

Respected Sir / Madam,

I am Vidya, a part-time research scholar at DCMS, University of Calicut. This survey was conducted as part of my research work. My study is titled “Personality Traits, Emotional Intelligence, and Behavioural Biases of Equity Investors in Kerala”. If you are a stock market investor, please spare a few minutes of your valuable time to respond to the questionnaire. The information provided by the respondents will be kept confidential and used for academic purposes only. I assure you that the details you provide will not be disclosed to any third party. Please fill out this questionnaire by ticking the appropriate boxes. I am expecting your wholehearted support for doing this.

PART 1: GENERAL INFORMATION

Please put a tick (✓) for each question

Name (Optional)

District

- | | | | | | |
|----|---------------------------|--------------------------|--------------------------|-----------------|--------------------------|
| 1. | Gender | Male | <input type="checkbox"/> | Female | <input type="checkbox"/> |
| 2. | Age | Up to 36 years | <input type="checkbox"/> | 36 to 45 years | <input type="checkbox"/> |
| | | 46 to 55 years | <input type="checkbox"/> | Above 56 | <input type="checkbox"/> |
| 3. | Educational Qualification | Up to HSC | <input type="checkbox"/> | Undergraduate | <input type="checkbox"/> |
| | | Postgraduate | <input type="checkbox"/> | Professional | <input type="checkbox"/> |
| 4. | Occupation | Business | <input type="checkbox"/> | Salaried Person | <input type="checkbox"/> |
| | | Retried | <input type="checkbox"/> | Professional | <input type="checkbox"/> |
| 5. | Annual Income | Below Rs. 500000 | <input type="checkbox"/> | | |
| | | RS. 500000 – 10,00000 | <input type="checkbox"/> | | |
| | | RS. 10,00001 to 15,00000 | <input type="checkbox"/> | | |
| | | RS. 1500000 and above | <input type="checkbox"/> | | |
| 6. | Marital Status | Married | <input type="checkbox"/> | Unmarried | <input type="checkbox"/> |
| 7. | Residential Area | Urban | <input type="checkbox"/> | Rural | <input type="checkbox"/> |

PART 2: INVESTMENT BEHAVIOUR

Please put a tick (✓) for each question

8. How many years of experience do you have in the stock market?
- | | | | |
|--------------------|--------------------------|-----------|--------------------------|
| Less than one year | <input type="checkbox"/> | 1-3 years | <input type="checkbox"/> |
| 3-6 years. | <input type="checkbox"/> | 6-9 years | <input type="checkbox"/> |
| Above 9 years. | <input type="checkbox"/> | | |
9. Which factor influence you more while making investment decision?
- | | | | |
|-------------------------------|--------------------------|----------------------|--------------------------|
| Past performance of the stock | <input type="checkbox"/> | Fundamental Analysis | <input type="checkbox"/> |
| Technical Analysis | <input type="checkbox"/> | Expert Friends | <input type="checkbox"/> |
| Media | <input type="checkbox"/> | Self-analysis | <input type="checkbox"/> |
10. Your holding period of securities.
- | | | | |
|--------------------|--------------------------|--------------------|--------------------------|
| Less than 3 months | <input type="checkbox"/> | 3 to 6 Month | <input type="checkbox"/> |
| 6-12 Month | <input type="checkbox"/> | More than one year | <input type="checkbox"/> |
11. Frequency of trading
- | | | | |
|----------------------|--------------------------|--------------|--------------------------|
| Many times, in a day | <input type="checkbox"/> | Daily | <input type="checkbox"/> |
| Weekly | <input type="checkbox"/> | Occasionally | <input type="checkbox"/> |
| Never | <input type="checkbox"/> | Rarely | <input type="checkbox"/> |
12. Approximate number of hours you spend per month in investment analysis
- | | | | |
|--------------------|--------------------------|----------|--------------------------|
| Less than one hrs. | <input type="checkbox"/> | 1-2 hrs. | <input type="checkbox"/> |
| 2-4 hrs. | <input type="checkbox"/> | 4-6 hrs. | <input type="checkbox"/> |
| More than 6 hrs. | <input type="checkbox"/> | | |
13. Total amount of money invested in stock market
- | | | | |
|----------------|--------------------------|---------------|--------------------------|
| Below 50000 | <input type="checkbox"/> | 50000- 100000 | <input type="checkbox"/> |
| 100000-200000 | <input type="checkbox"/> | 200000-500000 | <input type="checkbox"/> |
| 500000-1000000 | <input type="checkbox"/> | Above 1000000 | <input type="checkbox"/> |

PART 3: INVESTOR ATTITUDE BIASES

How much do you agree with following statements, Put a tick mark (✓) in the appropriate cell.

Highly Agree	Agree	Neutral	Disagree	Highly Disagree
5	4	3	2	1

Overconfidence biases	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
I am very confident in my ability to select winning stocks.	5	4	3	2	1
I prefer to hold on to stocks even if their past performance is not encouraging.	5	4	3	2	1
In an uncertain situation, I usually expect the best.	5	4	3	2	1
I feel more confidence in my own investment decisions than my friends.	5	4	3	2	1

Herd biases	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
Due to market stress, I wish to follow group behaviour.	5	4	3	2	1
I usually react quickly to the changes of other investors' decisions and follow their reaction to the stock market.	5	4	3	2	1
I always wish to collect trading information from others.	5	4	3	2	1
My investment decisions are influenced by stock market rumours.	5	4	3	2	1

Anchoring biases	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
I usually trade by using the past price of the stock as a reference .	5	4	3	2	1
I always place sell orders based on my entry price.	5	4	3	2	1
I shift my reference price gradually when I get new information.	5	4	3	2	1

Availability biases	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
When I get good news about a company, I will surely invest in the shares of that company.	5	4	3	2	1
In the past two years, stock "A" has given very good dividends to its investors. I assume that the same trend will continue with respect to stocks "A" in the future.	5	4	3	2	1
I think bad news about a stock is a signal to sell it immediately.	5	4	3	2	1
I believe that familiar stock is a safer one.	5	4	3	2	1

Representatives biases	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
I believe past performance is the main indication of the future performance of the stock.	5	4	3	2	1
Stocks that attract a lot of attention in the media are generally more valuable for trading.	5	4	3	2	1
I believe that good companies have a good track record of stable growth in earnings.	5	4	3	2	1

Cognaitive dissonance biases	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
I ignore all information that contradicts my thoughts and beliefs.	5	4	3	2	1
I always watch for such kind of information that support my belief	5	4	3	2	1
I try to avoid all negative information about the stock that I have purchased.	5	4	3	2	1

Loss aversion biases	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
It is more painful for me to hold losing stock for a long period of time than to sell winning stock soon.	5	4	3	2	1
I feel nervous when a large price drop occurs in my invested stock.	5	4	3	2	1
After a prior loss, I became more risk averse.	5	4	3	2	1
The pain of financial loss is greater than the pleasure of financial gain.	5	4	3	2	1

PART 4: PERSONALITY RELATED FACTORS

How much do you agree with following statements? Put a tick mark (✓) in the appropriate cell.

Highly Agree	Agree	Neutral	Disagree	Highly Disagree
5	4	3	2	1

Openness					
I wish to invest in new stocks for a better return while trading.	5	4	3	2	1
I prefer to stick with what I know.	5	4	3	2	1
who has an active imagination	5	4	3	2	1
I love to do challenging work.	5	4	3	2	1
Conscientiousness					
Due to my strong determination, I completed the task successfully.	5	4	3	2	1
The majority of investment decisions are made at the last minute.	5	4	3	2	1
I had always postponed my investment decision.	5	4	3	2	1
I'm working hard to make money from the stock market.	5	4	3	2	1
Extroversion					
I am a very active participant in the investor forum.	5	4	3	2	1
Enjoy being part of a group.	5	4	3	2	1
I always wish to share trading information with others.	5	4	3	2	1
I tried to encourage other traders strongly.	5	4	3	2	1

Agreeableness					
I enjoy participating in other stock traders' trading.	5	4	3	2	1
Who is sometimes rude to others?	5	4	3	2	1
I disagree with other investors.	5	4	3	2	1
I always try to find fault with other traders' methods.	5	4	3	2	1
Neuroticism					
I worry a lot when market volatility is high.	5	4	3	2	1
I am very much stressed due to the uncertain market situation.	5	4	3	2	1
Sometimes I very much regret about my trading decisions.	5	4	3	2	1

PART 5: EMOTIONAL FACTORS

How much do you agree with following statements? Put a tick mark (✓) in the appropriate cell.

Highly Agree	Agree	Neutral	Disagree	Highly Disagree
5	4	3	2	1

Self awareness					
I immediately realised when I lost my temper due to bad market conditions.	5	4	3	2	1
I know when I am happy due to a good market return.	5	4	3	2	1
I feel high stressed due to a huge loss in my investment.	5	4	3	2	1

Motivational oneself					
When the market volatility is high, I take immediate action.	5	4	3	2	1
Through my strong determination I can win from the stock market .	5	4	3	2	1
I always utilise my time effectively by searching for information from the stock market.	5	4	3	2	1
Self-Management					
I always try to improve my trading performance	5	4	3	2	1
I rarely worry about work or life.	5	4	3	2	1
While stock trading, I never let my feelings affect my thoughts.	5	4	3	2	1
I can suppress my emotions when I need to do.	5	4	3	2	1
Empathy					
I always help my friends select good securities from the market.	5	4	3	2	1
Sensing when others are feeling upset in stock market	5	4	3	2	1
I empathetically listen to other investors' trading problems	5	4	3	2	1
Social skill					
I am very happy to work with other investors while making investment decisions.	5	4	3	2	1
I build strong relationships with other investors and we discuss trading problems.	5	4	3	2	1
I carefully listened to other investors' success stories in the stock market.	5	4	3	2	1
While stock trading, I tried to arouse enthusiasm in others.	5	4	3	2	1

PART 6: INVESTMENT PERFORMANCE

How much satisfaction do you feel for your investment performance in terms of the following factors? Put a tick mark (✓) in the appropriate cell.

Highly Agree	Agree	Neutral	Disagree	Highly Disagree
5	4	3	2	1

Investment performance	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
Over the past five years my investment performance has been increased	5	4	3	2	1
I am satisfied with my stock investment decision of last year	5	4	3	2	1
My rate of return is higher than the average return of the market.	5	4	3	2	1
I am satisfied with frequency of stock I have purchased.	5	4	3	2	1
The rate of return I received meet my expectation	5	4	3	2	1
I am satisfied with the overall return of my portfolio	5	4	3	2	1

PART 7: REINVESTMENT DECISIONS

Reinvestment decisions	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
I have no intention of withdrawing from the stock market	5	4	3	2	1
I plan to increase my stock market investments in the near future.	5	4	3	2	1
In the coming year, I plan to purchase more profitable shares.	5	4	3	2	1
I plan to purchase more shares using the dividend income.	5	4	3	2	1

PART 8: RISK TOLERANCE OF INVESTORS

Risk tolerance	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am not having fear of loss in stock investment due to uncertainty prevailing in the market	5	4	3	2	1
I am willing to take risk in choosing a stock	5	4	3	2	1
I always invest in stocks which is risky	5	4	3	2	1
I always expect good returns from my investment for the risk undertaken.	5	4	3	2	1

Thank you for your kind cooperation