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The Impact of Behavioural Finance Biases & Demographic Factors on Financial Risk Tolerance of the Individual Investors with Moderating Role of Personality Traits at Pakistan Stock Exchange

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The core objective of this research paper is to investigate which behavioral finance biases and demographic factors are associated with a certain level of the financial risk tolerance with moderating effect of investor personality traits. Moreover, the study pointed out how these kinds of behavioral biases and demographic factors can influence investment decisions of the individual investor. Subsequently behavioral finance has become more important within investment avenues, furthermore this research within the Pakistan perspective is considered as compulsory. In this study we have took nine behavioral finance biases namely familiarity bias, overconfidence bias , representativeness bias , herding bias , anchoring bias , confirmation bias , loss aversion bias , disposition bias , availability bias and five demographic factors such as age, gender, marital status ,educational qualification ,& size of investment as control variables also , furthermore five important dimensions of the personality traits namely extraversion ,agreeableness ,conscientiousness ,neuroticism ,and openness as moderating variables .The questionnaire is adopted from the different sources for the collection of the data from 400 individual investors from the Pakistan Stock Exchange . The Results of the study point out that individual investors at Pakistan Stock Market " the total forty five moderating combination were established with interactions of nine behavioral finance biases .Out of forty five moderating combinations of personality traits with independent variables of behavioral finance biases, forty two moderating effects significantly change the impact of behavior finance biases on dependent variable of financial risk tolerance. Whereas on the other hand out of nine behavioral finance biases seven behavioral finance biases have significant direct effect on dependent variable of financial risk tolerance. It also is realized that the role of all controlling demographic variables to effect dependent variable of financial risk tolerance is insignificant. This study will be helpful for retail investors, regulators, policy makers, investment companies to sketch their investors and to offer more refined investment opportunities.

Keywords: Behavioral Finance Biases, Investors, Financial Risk Tolerance, Pakistan Stock Market, Investment Decisions Makings, Investor Personalities, Information Asymmetries, Individual Investors Stock Markets Anomalies, Demographic Factors

INTRODUCTION

After 1952 Finance has become the separate science subsequently the presentation of the Modern Portfolio Theory by Prof Dr. Harry Markowitz & then latter on the evolution process of finance reached at the Efficient Market Theory, which was introduced by Eugene Fame, in 1970. The Efficient Market Hypothesis is reflected as contemporary theory of the conventional finance which is based on some assumptions. The traditional finance supposed the rationalism & market efficiency of the investors, efficient markets theory has been empirically verified to conclude when the prices completely show certain subcategories of accessible evidence. As a result, three kinds of efficient markets hypothesis were identified which are weak form, semi-strong form, & strong form (Fama, 1970, Joo & Durri, 2015). According to (EMH) that some investors behaved irrationally in the market that is known as the "Noise Traders" would not have the significant effect on overall the working of the market if many of the market investors are rational. Therefore, under the efficient market hypothesis the minor cluster of irrational investors will maybe have the minor impact on the stock's prices. Consequently, efficient market theory argues that securities are correctly priced & there is no mispricing exist which hampers to the irrational individual investors to extra pay for stocks. According to Mak and Ip, (2017) The (EMH) elaborates that regardless of the theories, preferences & philosophies of the individual investors the value paid for the stocks is an effective price which replicates to the stock's real worth. On the otherhand Fama (1970) believe that there is a potential to influence the market price of securities due to presence of larger number of irrational investors in the market. Fahkry (2016) elaborated that mispricing of securities cannot be resolved without concerning behavioral finance. Furthermore, it is argued those market participants are considered to be homo sapiens rather than homo economics (Fahkry, 2016).

On the pervious mentioned opinions provided the conception of the market anomalies. According to Schwert(2003) change in price of asset cannot connected with current information or the release of new information. The market anomalies happened when the inefficiency exist in the market. Keim , (2006) believed that such market anomalies provided genetic to the behavioral finance which is the most dominant factor in the investment decisions. According to the Joo and Durri (2015) behavioral finance is grounded upon the conception of the "Bounded Rationality" which makes rational selections that comprises the cognitive restriction of the investors decision-making. The limitation of human beings in making rational

decision making as the boundaries to rational approach designs which effects in the bounded rational human being.

Therefore, the investors must have to understand about their investment behavior in the perspective of behavioral finance biases & demographic factors that enable them for the selection of the most appropriate investment decision making to link with their risky personalities (Kannadhasan, 2009, Kumari & Sar, 2017).

The Behavioral Finance Biases describes why individual investors make systematic mistakes and blunders, during the process of the investment decision making. This deals by means of inefficiencies like the investor's under & overreaction through the market information. It describes how much factors like the overconfidence, over optimism the herding-behavior of investors & have emotional impact on the investor's behavior. It deals with the financial markets & provides clarifications of the stock markets anomalies, market crashes, speculative market bubbles for instance (1929 & 1987 stock market crashes) etc. Behavioral finance biases is of concern for it supports to describes "how" & "why" stocks markets are might be ineffective or inefficient. The major purpose of current study to make an understanding regarding the behavioral biases like Familiarity bias ,Overconfidence Bias , Representativeness Bias , Herding Bias , Anchoring Bias , Confirmation Bias , Loss aversion bias , disposition bias , availability bias , and to realize the major influence of these behavioral finance biases & demographic factors on the investors financial risk tolerance while investment decision making in stock market. The psychological and emotional elements can impact on individual decision-making individual as a result these miscalculations & errors affect to the prices of securities, shares & returns and eventually consequence in the stock market inefficiency.

We cannot overlook the psychological or behavioral, demographic factors characteristic of anthropological nature while explanation of the stock market, working, operationalization or market volatility. To better understand or realize the individual investors behavior this is what much more significant to discover that which kind of behavioral biases & demographic factors influence the investors financial decisions making while they are characterized on the grounds of different behavioral biases, demographic futures & personality traits also as well.

To what extent personality traits play role as moderators and role of demographic variables as control variables between the relationship of independent variables of Behavioral Finance Biases and dependent variable of Financial Risk Tolerance".

- Is there an impact of Behavioral Biases on Financial Risk Tolerance at PSX?
- Do the personality traits moderate the connection between Behavioral biases & Financial Risk Tolerance at PSX?
- Does Demographic Factors as control variables have impact on Financial Risk Tolerance at PSX?
- Does the personality Traits moderate the relationship between Demographic Factors & Financial Risk Tolerance at PSX?

As per different studies the problem still exist as unresolved in which personality traits are responsible to moderate the relationship between behavioral biases and Financial Risk Tolerance.

Objectives of The Study

- To identify the role of Behavioural Biases in shaping the Financial Risk Tolerance of individual investors at Pakistan Stock Exchange.
- To identify the impact of personality traits to modify the relationship of behavioural Finance Biases with Financial Risk Tolerance of individual investors at Pakistan Stock Exchange.
- To identify the role of demographic factors in shaping the Financial Risk Tolerance of the individual investors at Pakistan Stock Exchange.
- To identify the impact of personality traits to modify the relationship of Demographic Factors with Financial Risk Tolerance of individual investors at Pakistan Stock Exchange.
- To seek recommendations for individual investors and other markets participants for making their better investment decision.
- To explore the new horizons about behavioral finance at PSX.

The research study will contribute new insights to the field of Behavioural Finance at Pakistan stock exchange, where the market participants such as individual investors, institutional investors, fund managers, brokerages agencies will be able to understand & analyse Psychological Biases & Demographic factors the way to overcome their negative impact on their investments before making the final decision of investments.

Furthermore, the Pakistan stock exchange is world emerging market and this research study will help out to set standards to keep it on its real worth and more stable.

The results of this study will also give valuable insights towards theoretical contribution to behavioural finance.

LITERATURE REVIEW

Most of the theories in the conventional finance are based on the rationalism of the investor's decision making but due to the Behaviorism, Globalization, Rapid Economic growth, Demographic Factors, & different types of investors personalities traits generated the volatilities in the business surroundings.

Behavioral Finance Biases

There are approximately twenty-six types of Behavioral Finance Biases which have significant role in reshaping of financial risk tolerance of the individual while the decision making but in this research study, we have took nine important behavioral finance biases which areas under

(I) Familiarity Bias

The Familiarity bias is on more mental shortcuts in the mind consumptions to screen the information & makes decisions that comprises in the trend to believe in & select things which are before now familiar to us. This is not the conscious decision making. The investors suppose that familiar stocks are superior

and that kind of investment with familiar stocks have a lower level of risk or high level of profit returns. This clarifies the broadly considered home-based country biases that have emotional impact on most of the individual investor's behavior, (French and Poterba 1991, Abreu et al. 2011).

(II) Representative Bias

Representativeness Bias is mental shortcut that relies on generalization rather than statistical probability. An assessment of the degree of correspondence between a sample and a population, an instance and a category, an act and an actor or, more generally, between an outcome and a model" (Pompian, 2006)

(III) Availability Bias

This is a mental & evidential dealing out psychological bias where the investors are always use a mental shortcut which is grounded on how at ease with the outcome seems in their lifecycle. The investors perceive certainly recalled risks as the batter selections. *(Pompian, 2017).* The psychological phenomenon is one of the cognitive biases that hinder critical thinking and, as a result of that taking place mental short cut while investment decisions making is called availability bias

(IV) Confirmation Bias

The confirmation bias is a perceptive & belief-perseverance psychological bias where investors put emphasis on ideas that endorse our beliefs & views while diminishing ideas that oppose our beliefs & thoughts. *(Pompian, 2017)* . The Confirmation bias can be leads to investors to pursue out only the information which confirms their thoughts & beliefs regarding investment which they have prepared & not to search for information that could contradict their views & beliefs , (fall, 2000).

(V)Disposition Bias

The disposition bias effect is another most important behavioral bias. In reality the investors who exhibit this bias generally embrace poor diversified investment selections & end up creating the bad financial investment decisions making which are against the rational theories of decisions making . Shefrin & Statman (1984) described that the disposition bias effect defines the trend that individual investors will have to sell the securities or stocks whose price is increasing the so-called champions or winners while possession in the investment portfolio securities or stocks whose price is decreasing the losers.

There are three main rational reasons to defend the disposition bias effect (i) Portfolio Rebalancing (ii) Trading Costs and(iii) Tax-Related aims for selling the securities at loss. Futhermore Odean (1998a) , found disposition bias effect even after overcoming the effect of Portfolio Rebalancing & Trading Costs. Lakonishok & Smith (1986) reflect the disposition Bias effect controls tax-related purposes for the selling of stocks or securities at the loss. The number of other experimental papers has documented the presence of the disposition effect or Disposition bias ,(Grinblatt and Keloharju2001 Shapira and Venezia 2001 Dhar and Zhu 2002).

(VI) Overconfidence Bias

The overconfidence bias is a tendency to hold a false and misleading assessment of our skills, intellect, or talent. In short, it's an egotistical belief that we're better than we actually are.

This is an emotional bias, where investors have an unreasonable faith in their own judgement, reasoning, and analytical abilities *(Pompian, 2017)*.

(VII) Herding Bias

Herding Bias is the Behavior of individuals investors in a group acting collectively without centralized direction. This kind of Phenomenon occurs while making their financial or Investment decision , Judgments ,Opinion Forming ,Religious Gathering also as well. This is the most common mistake where investors tend to follow the investment decisions taken by the majority" (Pompian, 2006)

(VIII) Loss Aversion Bias

The Loss aversion Bias is a theory of the social psychology as well as Behavioral Finance . This is what not the certainty of the loss which matters, but also the of the investors perception. The investors tend to feel more strongly to the loss than the gain of the same absolute worth. Loss aversion is central idea of prospect theory & has been recognized by the Amos Tversky & Dinal Kahneman (1979) .

(IX) Anchoring Bias

Anchoring Bias is human tendency that too much relies on initial piece of information while making the investment decisions . "In many situations, people make estimates by starting from an initial value that is adjusted to yield the final answer" (Pompian, 2006) .

Demographic Factors

Various factors influence the Financial Risk Tolerance while investors make the investment decisions. (Amos Tversky & Daniel Kahneman 1981). Due to the different financial risk tolerance calculation procedures & methodologies it is found that demographic factors , socio-economic elements , and different psychological factors which have considerable effect on the financial risk tolerance , (Van de Venter et al., 2012; Nguyen, 2015).

(I) Age

Study argued that different characteristics of demographic factors such as years leading to retirement, Higher educational levels, competition, as self-employed Age, gender & non-investment income were focused while investigating Financial Risk Tolerance, (Sung & Hanna, 1996). The Wang & Hanna , (1997) verified that there is the connection among Age & Financial Risk Tolerance. Furthermore the John E Grable & Lytton (1998) argued that the age and gender are the most important factor effect the Financial Risk Tolerance beside with additional characteristics as occupation, marital status, , employment, income, competition & educational Qualification . The age is important factor that is connected to the person's capability to quantify the financial losses or damages. For example older persons have less time to recover or to improve their financial damages (John E Grable & Lytton 1998). Many studies have concluded that age is an important factor that effect Financial Risk Tolerance. They proved that older

investors were unwilling or carefully take the risk while making their investment decision (Wallach & Kogan 1961).

(II) Gender

The number of latest studies has described that the women investors remained more risk hostile, selecting less risky portfolio or retirement assets as compare with men's , (Yuh & Hanna 1996 Sung 1997 , Bajtelsmit & VanDerhei 1997). This conventional approach to retirement investment is expected to be pragmatic in the extra investment choices. For the reason that the stocks and individual businesses are characteristically observed as more uncertain investments , this is expected the women will select these kinds of portfolio less frequently as compare their male colleagues. This is also estimated that the women will invest larger quantities of their assets with having the low-risk lesser return portfolio just as the deposit certificate & households.

(III) Marital Status

The marital status is also important factor that influence the Financial Risk Tolerance faced by individual investors. According to the (Roszkowski et al 1993) the unmarried peoples are more risk taker as compare with the married peoples because the married people have other additional responsibilities ,some studies have found that there is considerable connection between the Marital Status & Financial Risk Tolerance

(IV) Educational Qualifications

According to (Christiansen 2006) , find out that individual investors with having the higher level of educational qualifications invest a large portion of an asset in bonds & stocks . The Educated individuals investors are extra risk tolerant as compared with an illiterate investors for the reason that they have examined the market with close observation & have well recognize how around the market standing. How market swings and what kind of the factors that grounds to volatility in market place portfolio.

(V) Professional Experience

According to the (Roszkowski et al 1993) the individual investor with having the professional experience are the more risk tolerant as compare with the people who have the conventional salary or income are less risk taker . The different researches tells that the individual investors with high professional status are extra risk tolerant as compare with other peoples

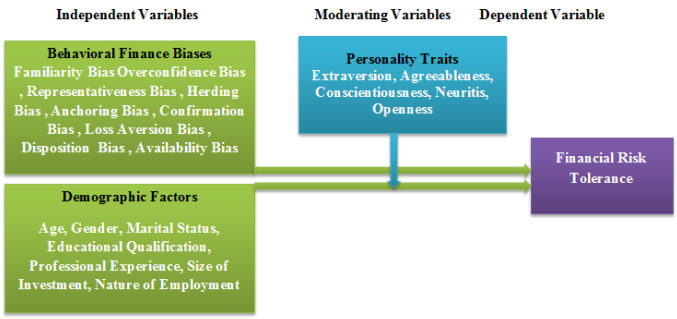
(VI) Size of Investment

Moderating Role of Personality Traits

The personality traits has been well-defined a reflects the peoples characteristics with different pattern of emotions ,believes ideas , thoughts, feeling & behavior to make decisions almost linked with behavioral biases & demographic factors . In present research study big five personality types or traits are facilitating the association & relationships of independent variables (Familiarity Bias , Overconfidence Bias , Representativeness Bias , Herding Bias , Anchoring Bias , Confirmation Bias , Loss Aversion Bias , Disposition Bias , Availability Bias) & dependent variable (Financial Risk Tolerance) with three important determinants such as Risk Taker , Risk Seeker , Risk Averse . The Risk level linked with an mechanism also plays the fundamental role in defining investor's conduct. Every individual investor has different capability to tolerate the financial risk. Capacity to tolerate the risk extremely be influenced by the individual financial responsibilities & tasks , the personality traits, & environment. For instance the young investors can take extra risk as compare with the old investors for the reason that the earlier considers himself substantially & physically more stronger to tolerate any financial losses . According to the (Bashir ,Uppal, Hanif, Yaseen, and Saraj ,2013) , establish that men investors have extraordinary risk tolerant as compared with women investors . Likewise the individuals investor with having higher income spend in riskier portfolios as compared with the individuals investors with having the low level of income. This is also experimented the risk-averse persons invest a lesser amount of in securities or stocks ,(Shum & Faig 2006). The individual investor who has the capacity of high level financial risk tolerance could invest in extra risky securities or stocks to make the higher returns.

Research Hypothesis

Conceptual Framework



H1: BFB have significant impact on FRT at PSE

H1a: There is significant impact of (Familiarity Bias Overconfidence Bias, Representativeness Bias, Herding Bias, Anchoring Bias, Confirmation Bias, Loss Aversion Bias, Disposition Bias, Availability Bias on Financial Risk Tolerance of the individual investor at Pakistan Stock Exchange.

H2: Personality Traits has moderation impact between the relationship of Behavioral Finance Biases and demographic factors on Financial Risk Tolerance at Pakistan Stock Exchange.

H3: Demographic Factors have significant impact on Financial Risk Tolerance at Pakistan Stock Exchange.

RESEARCH METHODOLOGY

Questionnaire adopted from different sources.

- For the measurement of Behavioral Finance Biases likert scale questionnaires adopted from the Published Research Paper in impact factor Journal of Economic Sciences & The Book of Daniel Khanman. The Questions of Behavioral Finance Biases Consist of 43 for the measurement of Nine Behavioral Finance Biases.
- For the measurement of Personality Traits, we are using Questionnaire adopted that was developed by John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. Handbook of personality: Theory and research, 2(1999), 102-138.There are 39

Questions are used for the measurement of big five personality traits in the questionnaire.

- For the measurement of financial risk tolerance we are using Questionnaire Taken from the Research Paper Published in impact factor Journal Financial Services Review in University of Georgia which is written & Developed by the Grabble & Lytton & the Questionnaire of Financial Risk Tolerance Consist of 13 items or Questions based on 8 important factors:(1) Guaranteed versus Probable Gambles, (2) General Risk Choice, (3) Choice between sure Loss and sure Gain, (4) Risk as Experience and Knowledge, (5) Risk as a Level of Comfort, (6) Speculative Risk, (7) Prospect theory, and (8) Investment Risk

DATA COLLECTIONS TEACHNIQUES

Data is collected by using the close ended questionnaires from the 400 Individual Investors Respondents, who are involved in trading at Pakistan Stock Exchange.

In order to collect data from respondents' convenience and quota sampling has been used Lim (2012). Both kind of sampling techniques has been used in this research study. For suitable sample size to fulfil the assumption of normality, convenient sampling is used to achieve the target of reaching four hundred 400 individual investors from the Pakistan Stock Exchange (Bryman & Bell 2007). The Data is primary in nature & has been collected from individual investors by using the close ended questionnaires. The Questionnaire is consist in four parts-1st part consist of questions on Demographic Factors, 2nd part consist of questions on Behavioural Finance Biases and 3rd part is consist of questions on Personality Types & fourth part is for the measurement of the Financial Risk Tolerance of the individual investors at Pakistan Stock Exchange . Likert scale questionnaire is used to measure the Behavioural Finance Biases and Financial Risk Tolerance while to measure some Control variables of demographic factors like to measure Experience, Educational Qualifications, Marital status, Age & Gender ranking scales is used. Five scales, Likert scale questions are asked in a way respondent shows his agreement or disagreement with statement. (Saunders et al. 2009).

Data Analysis Techniques

Structure Equation Modelling is used to measure all variables in model. It's most suitable to use as it is covering all Dependent, Independent, Moderating & Control variables simultaneously. SPSS AMOS is used to develop and run structure equation model.

Results and Discussions

For identification of the structural direct and moderating relationship between observed variables, structure equation modeling is adopted as multivariate data analysis technique. Based on reliability testing it is concluded that all items of variables are internally consistent with cronbach's alpha values more than 0.80. The assumption of normality is fulfilled as statistical values of skewness and kurtosis were less than the threshold values of -0.8 to +0.8 and -3 to +3 respectively.

As illustrated by table number…. all interactions relationship with dependent variable of financial risk tolerance is significant other than the interactions effects of ANB_NEU (interaction of anchoring bias and neuroticism) RB_CON (interaction of representative bias and conscientiousness) and DB_NEU (interaction of disposition bias and neuroticism).

Table No 1: Depicted, the results of interactions' insignificant effects on dependent variable of FRT

S. No.	Interactions effects on dependent	P-Value	P-Value
1.	FRT	DB_NEU	.407
2.	FRT	DB_EX	.390
3.	FRT	RB_CON	.325

Out of forty five total interactions, twenty two interactions have negative while twenty have positive effect on dependent variable of financial risk tolerance. The positive relationships of interactions (as combine effect of behavioral biases and personality traits) with financial risk tolerance indicate those personality traits which have potential to increase the investors' financial risk tolerance level for investments.

The estimate value of .15 in serial number 1 indicate that one unit change in value of interaction LB_NEU cause increment of 15 unit in value of financial risk tolerance of individual investors. The interactions effects representing the increment in financial risk tolerance level of individual investors.

Table No 2. Depicted, the results of interactions' positive and significant effects on dependent variable of FRT

S.No.	Interactions effects on dependent	P-Value
1)	FRT	***
2)	FRT	***
3)	FRT	***
4)	FRT	.016
5)	FRT	***
6)	FRT	***
7)	FRT	***
8)	FRT	.002
9)	FRT	***
10)	FRT	***
11)	FRT	.002
12)	FRT	***
13)	FRT	***
14)	FRT	***
15)	FRT	***
16)	FRT	***
17)	FRT	***
18)	FRT	***
19)	FRT	***
20)	FRT	.722

The negative relationships of interactions (as combine effect of behavioral biases and personality traits) with financial risk tolerance indicate those personality traits which have potential to decrease the investors' financial risk tolerance level for investments.

The estimate value of -0.081 in serial number 1 indicate that one unit change in value of interaction LB_OP cause decrement of -0.081 unit in value of financial risk tolerance of individual investors. Correspondingly in all other cases as illustrated in table number 1.2. The interactions effects representing the decrement in financial risk tolerance level of individual investors.

Table No 3: Depicted, the results of interactions' negative and significant effects on dependent variable of FRT

S.No.	Estimate		P-Value
1)	FRT	-.081	***
2)	FRT	-.068	***
3)	FRT	-.054	***
4)	FRT	-.146	***
5)	FRT	-.189	***
6)	FRT	-.129	***
7)	FRT	-.015	***
8)	FRT	-.068	***

9)	FRT	-.026	***
10)	FRT	-.007	.007
11)	FRT	-.076	***
12)	FRT	-.042	***
13)	FRT	-.035	***
14)	FRT	-.064	***
15)	FRT	-.072	***
16)	FRT	-.031	***
17)	FRT	-.153	***
18)	FRT	-.052	***
19)	FRT	-.106	***
20)	FRT	-.004	.089
21)	FRT	-.079	***
22)	FRT	-.059	***

Direct effects of behavior biases on dependent variable of financial risk tolerance are illustrated in table number 1.3.The behavioral biases on serial number 3, 4, 5, and 9 have positive impact on dependent variable of financial risk tolerance; it means that corresponding behavioral biases have potential to increase the financial risk tolerance of individual investors. On the other hand the behavioral biases on serial number 1, 6 and 7 have negative impact on the dependent variable of financial risk tolerance, it means that that corresponding behavioral biases have potential to decrease the financial risk tolerance of individual investors. The behavioral biases on serial number 2 and 8 are insignificant to have impact on financial risk tolerance.

Table No. 4: Depicted, the results of direct effects of behavioral biases on dependent variable of FRT

	Estimate			P-Value
1)	FRT	LB	-.478	***
2)	FRT	HB	.015	.250
3)	FRT	OCB	.542	***
4)	FRT	DB	.396	***
5)	FRT	CB	.481	***
6)	FRT	Ab	-.047	***
7)	FRT	RB	-.102	***
8)	FRT	FB	-.009	.498
9)	FRT	Anb	.079	***

Moderation Effects

The direct effect of LB on FRT is negative and significant; on the other hand the moderating effects of LB_NEU, LB_CON and LB_AG are positive and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of NEU, CON and AG change the direction of relationship of loss aversion bias on financial risk tolerance significantly. The moderating effect of LB_OP and LB_EX are negative and significant, it means that the moderating personality traits of OP and EX have almost the same consequences on financial risk tolerance as the individual behavioral bias of LB.

The direct effect of HB on FRT is positive and significant; on the other hand the moderating effects of HB_EX, HB_AG and HB_CON are also positive and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of EX, CON and AG have almost the same consequences on financial risk tolerance as the individual behavioral bias of HB on FRT. The moderating effect of HB_NEU and HB_OP are negative and significant. It means that the moderating personality traits of NEU and OP change the direction of relationship of herding bias on financial risk tolerance significantly.

The direct effect of OCB on FRT is positive and significant; on the other hand the moderating effects of OCB_NEU, OCB_EX and OCB_OP are also positive and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of NEU, EX, and OP have almost the same consequences on financial risk tolerance as the individual behavioral bias of OCB on FRT. The moderating effect of OCB_CON and OCB_AG are negative and significant. It means that the moderating personality traits of CON and AG change the direction of relationship of loss aversion bias on financial risk tolerance significantly.

The direct effect of DB on FRT is positive and significant; on the other hand the moderating effects of DB_OP, DB_CON and DB_AG are negative and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of OP, CON and AG change the direction of relationship of DB on financial risk tolerance significantly. The moderating effect of DB_NEU and DB_EX on financial risk tolerance is insignificant. It means that the moderating personality traits of NEU and EX modify the individual positive and significant effect of DB on FR as insignificant.

The direct effect of CB on FRT is positive and significant; on the other hand the moderating effects of CB_NEU, CB_OP and CB_AG are negative and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of NEU, OP and AG change the direction of relationship of CB on financial risk tolerance significantly. The moderating effect of CB_EX and B_CON are positive and significant, it means that the moderating personality traits of EX and CON have almost the same consequences on financial risk tolerance as the individual behavioral bias of CB.

The direct effect of AB on FRT is negative and significant; on the other hand the moderating effects of AB_CON, AB_NEU and AB_AG are also negative and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of CON, NEU, and AG have almost the same consequences on financial risk tolerance as the individual behavioral bias of AB on FRT. The moderating effect of AB_OP and AB_EX are negative and significant. It means that the moderating personality traits of OP and EX have almost the same consequences on financial risk tolerance as the individual behavioral bias of AB on FRT.

The direct effect of RB on FRT is negative and significant; on the other hand the moderating effects of RB_OP and RB_NEU are also positive and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of OP and NEU have almost the same consequences on financial risk tolerance as the individual behavioral bias of RB on FRT. The moderating effect of RB_AG and RB_EX are negative and significant. It means that the moderating personality traits of AG and EX change the direction of relationship of RB on financial risk tolerance significantly. The moderating effect of RB_CON on financial risk tolerance is insignificant. It means that the moderating personality trait of CON modify the individual positive and significant effect of DB on FRT as insignificant.

The direct effect of FB on FRT is negative and significant; on the other hand the moderating effects of FB_EX, FB_AG and FB_CON are also negative and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of EX, AG and CON have almost the same consequences on financial risk tolerance as the individual behavioral bias of FB on FRT. The moderating effect of FB_NEU and FB_OP are positive and significant. It means that the moderating personality traits of NEU and OP change the direction of relationship of FB on financial risk tolerance significantly.

The direct effect of ANB on FRT is positive and significant; on the other hand the moderating effects of ANB_AG, ANB_CON and ANB_NEU are also positive and significant on dependent variable of financial risk tolerance. It means that the moderating personality traits of AG, CON and NEU have almost the same consequences on financial risk tolerance in a same way as the individual behavioral bias of ANB has effect on FRT. The moderating effect of ANB_EX and ANB_OP are negative and significant. It means that the moderating personality traits of EX and OP change the direction of relationship of ANB on financial risk tolerance significantly.

The effect of control variables on dependent variable of financial risk tolerance are illustrated in the table number 1.4.The p-value in all cases is more than 0.05 indicating that all control variables are not significantly effecting the dependent variable of financial risk tolerance.

Table No 5: Depicted, the results of direct effects of behavioral biases on dependent variable of FRT

Indicator	Values
Chi-square	.096
RMR	.001
NFI	0.98
RMSEA	.003

Model Fitness Indicators

The fitness of conceptual model with respect to data collected can be identified based on model fitness indicators. For realization of conceptual model fitness, four indicators are adopted namely Chi-square, RMR, NFI and RMSEA as illustrated in table number.

For identification of absolute fitness of conceptual model Chi-square is used as an indicator. Model fits the data, is null hypothesis of interest in case of Chi-square test. As illustrated in table the chi square value is 0.96 and its pertinent p value is .779, it concludes that null hypothesis is accepted that model fits the data.

How sample variances and covariance matrix are different with respect to the estimated variance and covariance matrix is indicated by the value of the indicator RMR with assumption that model is correct. The assumption of model fitness is fulfilled, if RMR value is close to zero, as in this research study the RMR value is 0.001, it mean the model is better fit.

Table No 6: Model Fitness Criteria

Effects of Control Variables on dependent	Estimate	P value
FRT	AGE	.026
FRT	GEN	-.052
FRT	@EQ	-.023
FRT	MS	.017
FRT	SI	.049

Normal fit index is the measure of comparison which indicates the difference between wrongly fitted independent model and perfectly fitted default model. The conceptual model will be perfectly fitted if its value is close to 1, as in this research study its value is 0.98, it means conceptual model is perfectly fitted.

RMSEA is a corrective measure and index that represents the difference between hypothesized covariance matrix and observed covariance matrix per degree of freedom. It also takes in to account the complexity of the model as it involved the degree of freedom. The value of RMSEA less than 0.05 is considered as good fit of model, as in this research study its value is 0.003, it means the conceptual model is a good fit.

Conclusions

The purpose of study is to identify the potential direct effect of behavioral fiancé biases on financial risk tolerance, moderating effect of personality traits on FRT and controlling effect of demographic variables on Financial Risk Tolerance. Convenience and quota sampling is used for collection of data from individual investors through questionnaires. After fulfilling assumptions data was analyzed by multivariate structural equation modeling by using Amos as data analysis tool.

Based on results of this study it is realized that the role of all controlling demographic variables to effect financial risk tolerance is insignificant. Out of forty-five moderating combinations of personality traits with independent variables of behavioral biases, forty-two moderating effects significantly change the impact of behavior biases on dependent variable of financial risk tolerance. Out of nine behavioral biases seven behavioral biases have significant direct effect on dependent variable of financial risk tolerance. Consequent to this research study the importance of personality traits as moderators to affect Financial Risk Tolerance and also the importance of behavioral finance biases to affect financial risk tolerance can't be denied.

The results of this research study have much implications for the individual investors investment corporations, academia & policy makers. The individual investors investment companies, brokerage agents , will use the outcomes of this research study for the better understanding regarding the financial risk tolerance of the investor's or investment decision-making procedure and improve strategies by concentrating on those elements recognized in this research study. They can afford better investment professionals who can teach to the individual investors for making the sensible rational decision. This study furthermore can support in growing the dimensions of the investment, maximization the profits in the business & minimization the losses also as well. The supervisory body, policy makers & regulators can moreover benefit by this research study. The financial investment policies & procedures established in light of the findings of this research study might be more operational in completing its objectives. Due these kinds of anomalies 'market abnormalities, information asymmetries, impact, the markets work incompetently. It is too significant to create the financial markets control competently

by efficiently controlling to the behavioral finance biases which grounds these types of the anomalies & market abnormalities ,(Cuthbertson, Nitzsche, & O'Sullivan, 2016).

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