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# Evidences of Gender Diversity on Investment Preference

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## **ABSTRACT**

*The main aim of this paper is to study the impact of investment preference on gender with the help of four biases i.e. overconfidence, conservatism, self attribution and self control bias. To examine the hypotheses, the primary data collected from 350 samples. The samples were chosen randomly from the population who invest in funds. To measure the dimensions of biases a fivepoint scale of strongly disagree to strongly agree was used and Analysis of Variance (ANOVA) as statistical test was applied to test the significant difference between the Gender and the biases. The result shows that women are less overconfident and more risk averse than men. The study also reveals that women have self attribution and self control bias in them.*

**Keywords: Behavioral finance, Bias, Conservatism, Gender, Investment, Overconfidence, Empirical Study.**

## **INTRODUCTION**

Traditional theories of finance and economic models are depends on the two vital assumption, that is, market efficiency and rationality. The traditional finance assumption says that human beings are rational who always want to maximize their wealth. In the words of Fama (1965), he defines that “efficient market” as a market in which “security prices gives the full and free information to the all available investors in the market”. “He also tells that investors are of rational nature who wants to maximize their profit by predicting future values of individual investors”. Behavioral finance is an approach that continuously challenges the assumption of Efficient market hypothesis and consider that several factors which includes both irrational and rational thinking, who force the behavior of investors. (Shefrin, 2000). The theory of behavioral finance believes that only the rational behavior and market prices of securities are not all the time a true estimation of the fundamental value of the firm, it also focuses on investor behavior and their investment decision process which drive the market prices of security and fundamental value of firm. Many research theories and readings on the behavior of investors have revealed the subsistence of irrational thinking in investor’s decision making abilities. Many behavioral researchers study the behavior of investors and enlightened the reason, why the shares in the market are over and undervalued?

The paper Statman, M. (1995). “Behavioral Finance vs. Standard Finance tells about the distinction between standard finance and behavioral finance, Professor Brad Barber and Terrance Odean (2001), conclude in the paper as “Boys will be boys:- Gender, Overconfidence and Common Stock

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Investment” , Amos Tversky and Daniel Kahneman , propounded a theory naming “Prospect Theory”, Engin Demirel et al. (2011), he analyzes the relationship among financial and demographic behavioral factors in investment decisions, Hussein A. Hassan Al- Tamimi, (2006) analyze the UAE investor behavior and the factors influencing in “Dubai Financial Market and Abu Dubai Securities Markets”. He found six factors which have significant affect on investors.

## **OBJECTIVE OF THE STUDY**

- 1.ow men and To find out whether the gender diversity plays an important role in influencing investment decision.
2. H women investor’s are influenced by behavioural bias?

## **LITERATURE REVIEW**

**Barber and Odean (2001)** from their research they conclude that women are less overconfident as compare to men, as trading is more by them but earn less returns in USA.

**Chen et al. (2007)** conduct a survey on the China stock market and discover that many investor’s are exaggerated by the disposition bias.

**From the study of Barber and Odean (2008)** it has show that in US stock exchanges investors opt that type of stock which have recently attract their attention while making purchase decisions confirming the availability bias.

**Park et al. (2010)** from their study in Korea they showed that there is a significant relation between investors choice and confirmation bias, which shows that investors get overconfident while making investment and negatively affect their investments.

**Fish (2012)** from his studies in USA, he conclude that males take more risk than females, when even they are taking financial knowledge in consideration.

**Mishra and Metilda (2015)** the result shown from their studies that men has higher overconfidence as contrast to women, which is also exaggerated by investment experience and education. It also shows that there is noteworthy relationship between self-attribution and overconfidence.

**Dittrich, Guth & Maciejovsky (2001)** from their study they have conclude that at least one third of the investors are overconfident in favor of their investment. And they also found that the investors become more confident when they lose their money in the market. Due to overconfidence nature of investors they overrate their knowledge which makes a trend of unnecessary trading in the market.

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**Felton, Gibson, and Sanbonmatsu (2003)**, from their study they have concluded that optimist investor is connected with larger compliance to accept more levels of risk in a portfolio. They also analyze the effect of gender on the investment preference with one more factor who affects the choice of investment is personality of an investor.

**Kahneman and Riepe (1998)**, “from their study they want to found out the cause of over confidence and its affect on the investors. He argues that when people overrate their knowledge, undervalue their risk and overrate their skill to manage event, they suffer from overconfidence bias”.

**Eastwood and Nutt (1999)**, “investigate that individuals have a tendency to overestimate the optimistic news and underestimate the pessimistic news. They also conclude that the behavior is constant with those people who analytically responding in an optimistic manner.”

**Robert Durand, Rick Newby, Kevin Tant and Sirimon Trepongkaruna (2013)**, “the main aim of this manuscript is to check the behaviour qualities in financial market and main focus is given on overconfidence and overreaction, to check the personality traits they use the Big five personality model and researchers found that personality traits are correlated with overconfidence and overreaction in financial market.”

### **Investors' biases**

**Shefrin (2007) according to him bias is a tendency towards inaccuracy:** This is discrimination or a predisposition to formulate decisions which has been already inclined by an essential conviction. Many Psychologists have studied about the different types of error which investors make while taking decision on investments. This study also highlight that many investors are affected by psychosomatic factor for example herd bias, cognitive biases while making their decision, and don't consider the rational and wealth maximizing behavior. (Forbes, 2009).

In this paper author wants to analyze the experience of investment, gender bias, and the education level on two define biases, over confidence and optimism. This paper also studies regarding the association between over confidence bias and optimism bias. We can splinter this paper in the subsequent order. The first portion of this paper express about the overconfidence bias, Conservatism Bias, Self attribution bias, Self Control bias with their repercussion to the investors'. The second portion is go along by a assessment of former papers which are presenting the impact of gender, experience, and education level on over confidence and Conservatism Bias, Self attribution bias, SelfControl Bias. The third section explains about the methodology and questionnaire for the study. The fourth section comprises the result, pursued by discussions and conclusions.

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## Over confidence Bias

“Overconfidence can be defined; an investor has subjective trust in ones’ insightful decisions and capability. When the investor dealing in capital market and investing into securities is very much confident about his/her own strategies and judgments, then his/her decision making may be under the influence of overconfidence bias. In the situation of overconfidence investor may take the occurrence of an event granted, but in changing economic scenario it is possible that it may or may not happen. The outcome of overconfidence may be seen in the forecasting of strategies, predication and the certainty of the happening of an event. Further the overconfidence bias can be divided into two types, which are given as below:”

**1. Prediction Overconfidence:** “When investor underestimate their investment prediction or too narrow.”

**2. Certainty Overconfidence:** “When investors are frequently certain about their judgments.

Many researcher have worked on overconfidence bias, one of the research work on overconfidence has been done by Professor Barber B and Odean T (2001), and published in the paper as” “Boys will be boys: Gender, Overconfidence and Common Stock Investment” “In many circumstance overconfident investors are likely to decrease the expected utility of portfolio by trading on the basis of unrealistic beliefs. Also it is seen that over confidence leads to high churning or turnover of the portfolio.”

Over confidence can be reviewed as superfluous confidence in ones’ perceptive interpretation, judgment, and cognitive ability (“Pompian, 2006”). Over confidence can be summarized as invasive person characteristics, founded by Psychologists (“De Bondt & Thaler, 1995”).

“**Fischhoff, Slovic, and Lichtenstein (1977)**”, the authors concluded from their studies pragmatic that investors are badly assessed when estimated probability. According to probabilities, the event which they thought are definite to happen actually happen only 80 percent of the moment, and incidents they thought are not possible to happen; they happen roughly 20 percent of the moment. “Shefrin (2000)” explains over confidence with the help of example of driving approach of the investors. While conducting the research it was asked by the group about the driving ability of the investors and 65 percent to 80 percent of the respondent rated themselves over confident.

“**Montier (2002)**” the author did his study on the basis of three hundred specialized fund executives in which he founded that approximately 74 percent investors judge that their performance is not only good but above average and the remaining 26 percent judge that their performance was only regular. From this we can say that roughly all the respondent thought that their performance was regular or better. In two of the above studies, it can be concluded that over confidence was calculated through more than average effect which is a tendency in human to embellish their abilities. After analyzing the

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studies, author concluded that on practically any dimensions that is both skewed and communally desirable, most investor will see themselves as regular than average “(Myers, 1996)”.

“**Camerer and Lovallo (1999)**”, they originate that due to optimism and over confidence among people increases the business entry because they are optimism and over confidence about their in build skills and because of failure in business they quit later on.

“Barber and Odean (2000)”, they found that the investor who is overconfident, they overestimate the accuracy the information get from the market and thus the probable profits by trade. They also found that individual invest their general stock investment about 70 percent per annum.

### **Self attribution bias**

“Self attribution bias have tendency to guilt of breakdown to outside influence such as awful luck, influence of information etc. while ascribe credit of success to themselves such as talent or foresight. A very good example for self attribution bias is that when students perform well in their exam, they give credit to their intelligence and hard work, while if they are not able to perform well they give explanations such as tough question paper, unfair grading system, and fatigue from continuous exams etc. Self Attribution bias is actually divided into two types”:-

- “Self Enhancing Bias, which is a mental bias where investor claim an irrational degree of their own intelligence for the success achieved.”
- “Self Protecting Bias is where investor protects themselves in case of failure.”

“Terrence Odean and Simon Gervais (2001), also discussed Self Attribution”

“Bias in their paper “Learning to be overconfident”, in which they have talk about that traders in stock market also show the susceptibility of self Enhancing bias which finally leads to Overconfident Bias.”

### **“The studies also disclose that:”**

- “Phases of common wealth are followed by phases of higher than predictable trading volumes, which is because of overconfident behavior of investors.”
- “When the overconfidence increases the trading volume, the net profits comes down because of high transaction charges.”
- “The Young and consecutively successful contender trade the most and demonstrate more confidence.”

“While concluding, it can be said that, the traders while assessing their ability takes too much credit for their own success which leads them to be overconfident which in turn lowering down the expected profit because of trading excessively in markets.”

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## Self control Bias

“Self control Bias is the human being propensity which leads them to devour today at the cost of accumulate for tomorrow. Most common illustration of this bias is that when a individual come to know about their tax liability has to be increased in the end of a Financial Year then they can react in two way, either he/she will contribute the tax liability amount aside in saving Bank A/C or start making small installments towards tax liability at periodic intervals. Professors Richard H. Thaler and Shlomo Benartzi (2002) developed the concept “Save More Tomorrow Program” in which four important points are highlighted. uld go for a saving bank A/c as the interest will be earned on the amount deposited, but it has been observed that mostly investors go for second option.”

- “The Retirement Savings are to be imposed on the individuals.”
- “The contribution of individuals should increases automatically with time.”
- “The contribution keeps increasing till the maximum contribution.”
- “Individual can choose any plan at any time.”

“Lusardi’s (2001), she wrote “Explaining Why So Many Households Do Not Save”, in her empirical analysis it has been shown that individuals who save at lower rate do not plan for their retirement, while those who plan for retirement are more concerned for savings for future. Also investors planning for their retirement are more likely to invest in less complex investment options, such as PPF.”

## Conservatism bias

“In conservatism bias we study the mentality of the people who are conservative or risk averse and to cling to their prior views. Investors with conservatism bias under react the newer information about investment because they found it costly or risky, as compared to the investment option they are already dealing in.

But in reality investors may reveal in two different ways of biases, if the new information is as per the investor’s likeliness and appears to be fit, he may show his representative behavior, otherwise the conservative behavior will dominate, if there is no representative relationship.

**James Montier (2002)**, the author of Book “Insights into Irrational Minds and Markets”, reveals about his study that the behaviour of the securities analysts in the capital market is also affected by Conservatism Bias, because of which they tend to stick to the forecasts they have made and even when the new information is available to them.

Investors show inflexible behavior when new information comes to them, because investors being stick to a sight or future. The reaction of the investor is slow and feels trouble to a great extent in processing the new information. This behavior of the investor is also well explored in the research paper “A model of investor Sentiment,” written by Robert Vishny and Nicholas Barberis (1998) under the guidance of Andrei Schleifer (1998), where they explore that sometimes investor respond very

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slight to new information and that in another case they respond very much.” They also found that, if the investors make a trust on those stocks that perform well in past 3-5 years and take a future investment decision on that, which leads to undue overpricing of stock which also affects the performance of other stocks.

### **Behavioral implications of overconfidence**

Past researches suggest that investors are overconfident about their capability to envisage the future and they overvalue their capability to assess a company as a prospective investment. According to Barber and Odean (2001), investors who are overconfident, they trade terribly which in turn leads to poor returns. They underrate the downside risk because they pay no attention to past investment statistical performance, which results in reduced portfolio performance, this is due to, they hold undiversified portfolios.

**Kahneman and Riepe (1998)**, In this paper the chief aim of the author is to discover the reasons of overconfidence and how investors’ “are affected by it. He argues that when people overrate their knowledge, undervalue their risk and overrate their skill to manage event, they suffer from overconfidence bias.”

“**Odean (1998)** in this paper the main objective of the researcher is study the trading behavior of the investors, by evaluating operating reports for 10,000 account, 6,380 trade stock in the CRSP file for a total of 97,483 transaction at a high discounts brokerage house. He argues that investors who are overconfident employ in trading more eagerly than to rational investors“. These effects into overestimation of their expected gains and uninterrupted participation in expensive dealing.”

### **Gender and Biases**

Although men and women are found to be overconfident, many studies have shown that the extent of overconfidence varies according to the gender; men are overconfident than women.

**Lewellen, Lease, and Schlarbaum (1977)** from their research they found that women are less confident as compare to men in their behavior.

**Lundeberg, Fox, and Puncchohar (1994)** they state that men overconfidence behavior is depend on the task and risk taken by them.

**Barber and Odean (2001)** made a research on households, how they do the investment. The research was done on 35,000 households, between 1991 and 1997, and found that overconfident investors overestimate the correctness of their information and thereby the expected gains of trading. They also found that women are less confident than men but they perform better than the men.

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**Pompian and Longo (2004)**, in their study, they emphasize on the personality type and correlate with gender, which help them to produce better investment outcomes. From their study they have found that personality types and both genders are differently inclined to numerous behavioral biases.

**Gervais and Odean's (2001)** model shows that the investor's overconfidence takes place from self-serving self-attribution bias.

**Deaux and Farris (1977), Meehan and Overton (1986), and Beyer (1990)** from their research they have found that women are less prone to self-attribution bias than men.

**In line with the above inquiry, the following hypothesis is formulated:**

**H1.** Women are less overconfident than men.

**H2.** Women are less self-attributive than men.

**H3.** Women are more risk averse than men.

**H4.** By less risk averse, men perform less than women in trading.

**H5.** Women are more prone to self control bias than men.

### **Self-attribution bias and Overconfidence bias**

**“Daniel et al. (1998)”**, “in this paper researcher work on two psychological biases and biased self attribution and investors tend to react as overconfident relating to their private 31 information. This reaction happens because they believe that their information is more accurate than it actually is.”

**“Eastwood and Nutt” (1999)**, “investigate that individuals have a tendency to overestimate the optimistic news and underestimate the pessimistic news. They also conclude that the behavior is constant with those people who analytically responding in an optimistic manner.”

**“Doukas and Petmezas” (2007)**, “examine that self attribution is a source of overconfident managers. They also investigate that overconfident managers could also acquire the superior abnormal returns. The research of the paper is based on the influences of joining waves, company shock and macroeconomic conditions and found that overconfident bidders realize lower returns as compare to rational investors and managerial overconfidence comes from self attribution bias.”



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**“Deaux K. and Farris E. (1977), Meeham A.M. and Overton W.F. (1986)”**, “establish that the self helping attribution bias was higher in man as compare to woman which shows that man are more confident than the woman. Gender differences in attribution and expectancy patterns occur primarily on „masculine task.”

**“Estes R.H. and Hosseini J.” (1988)**, “examined that male are more confident than female investors. While taking the investment decision females face less confident even when controlling for backdrop and capability even though the expected returns of the diverse investments were the same. They have used Multiple regression to manage statistically variation among subject (N=1359) nationwide and build up a model of investment decisions confidence.”

**“Harlow W. V. and Keith Brown (1990)”**, “found that women prefer less risk stake when said to make selection in an experimental markets environment, involving auction and lottery. They also laid down the emphasis on relation between risk tolerance and behavioral traits of the investors. The method they use to determine the difference between the gender differences is Fstatistics from ANOVA.”

**“Vicki L. Bogan David R. Just Chekitan S. Dev”, (2013)**, “the main aim of the paper is to examine how portfolio option is exaggerated by the players risk aversion and loss aversion. For this research authors use the economic experimental approach. This paper finds that the presence of male increases the chance to choose the higher risky investment and also increases the loss aversion.”

### **Conservatism bias**

**“Edwards” (1968)**, “finds that due to conservatism bias, investors overvalue the base rates and undervalue the new information, because of this when new information occurs the adjustment of base rate becomes slow.”

**“Lord et al.” (1979)**, “examine that investors are not ready to change their viewpoint very easily. This type of nature comes due to cognitive, time, and prospective financial expense of evaluating fresh information for updating probability judgment.”

### **METHODOLOGY**

The samples were chosen randomly from the population who invest in funds. This study uses a survey research technique, with the help of questionnaire having questions on overconfidence bias and self-attribution bias, risk-averse, self-control. Overconfidence bias in terms of poor calibration, a hallucination of control, better than average, unreal optimism can be measured. In this study, “better than average “is used to measure overconfidence bias and degree of its effect with the help of five points Likert scale. Similarly, questions pattern used for self-attribution, earlier study was used as a

benchmark for developing the scale. The responses based on gender, investment experience and level of experience. The one with less than two years of investment history, considered as less experienced and the one with a history of investment for more than two years, considered as more experienced. This study primarily focuses on gender prospects though the level of overconfidence and self-attribution for different gender will provide better insights, we restricted the study to understand the various prospects from the viewpoint of gender who has different levels of work experience and investment history.

To measure the dimensions of overconfidence, self-Attribution, Risk Averse, and self-control bias, a five-point scale of strongly disagree to strongly agree was used. Responses about the feelings of respondent against above dimensions were considered.

Analysis of Variance (ANOVA) as statistical test was applied to test the significant difference between the Gender and overconfidence bias, self-attribution, risk-averse & self-control.

## ANALYSIS AND RESULT

### Descriptive statistics

The demographic profile of the respondents is depicted in Table 1.

**Table 1: Demographic profile of the respondents**

1. Gender			2. Marital Status		
	Frequency	Percent		Frequency	Percent
Male	126	36.0	Married	231	66.0
Female	224	64.0	Unmarried	119	34.0
Total	350	100.0	Total	350	100.0

  

3. Occupation			4. Experience		
	Frequency	Percent		Frequency	Percent
A homemaker	14	4.0	less than 2 years	35	10.0
Employed for wages	315	90.0	2 years and above	315	90.0
Self-employed	21	6.0	Total	350	100.0
Total	350	100.0			

### Overconfidence and gender

#### H1: women's are less overconfident than men.

Table 2 shows the perception of the respondent which is classified on the basis of gender. The mean score for "As compared to other drivers on the street, i am the better drive" given by male respondent is

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3.94 and by female respondent is 3.43. the ANOVA table shows F value of 20.273 and significance value of 0.000009. Since the significance value if  $< 0.05$ , the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. The mean score for “While Driving On The Road I Always Become Cautious” given by male respondent is 4.27 and by female respondent is 4.12. the ANOVA table shows F value of 3.415 and significance value  $>0.05$ . Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. The mean score for “According To My Opinion, On Average, I Cannot Predict Future Share Prices Better Than Others.” given by male respondent is 3.83 and by female respondent is 3.75. the ANOVA table shows F value of 0.511 and significance value  $>0.05$ .

Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. The mean score for “You Invest In Stock Markets Which Is Giving 10% Annualized Return Since Past 10 Years.

Your Prediction For This Year Is Also Above Average” given by male respondent is 3.50 and by female respondent is 3.43. the ANOVA table shows F value of 0.388 and significance value  $>0.05$ . Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. The mean score for “After Making An Investment In A Stock, You Overhear A News Report, Which Implies That It Does Not Perform Well. The Information Confirms That You Have Made A Wrong Decision” given by male respondent is 2.88 and by female respondent is 3.09. the ANOVA table shows F value of 5.177 and significance value  $< 0.05$ . Since the significance value if  $< 0.05$ , the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. The mean score for “I Prefer Buying Of Stock In Downward Trend” given by male respondent is 3.22 and by female respondent is 3.15. the ANOVA table shows F value of 0.467 and significance value  $>0.05$ . Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. Hence the Null hypothesis is accepted.

**Table 2: Overconfidence Vs. Gender**

		N	Mean	Std. Deviation	Std. Error	F	Sig.
As Compared To Other Drivers On The street, I Am The Better Driver	MALE	126	3.9444	.85140	.07585	20.273	.000
	FEMALE	224	3.4375	1.09037	.07285		
	Total	350	3.6200	1.03860	.05552		
While Driving On The Road I Always Become Cautious	MALE	126	4.2778	.87305	.07778	3.451	.064
	FEMALE	224	4.1250	.65097	.04350		
	Total	350	4.1800	.74106	.03961		
According To My Opinion, On Average, I Cannot Predict Future Share Prices Better Than Others.	MALE	126	3.8333	1.07145	.09545	.511	.475
	FEMALE	224	3.7500	1.03308	.06903		
	Total	350	3.7800	1.04629	.05593		
You Invest In Stock Markets Which Is Giving 10% Annualized Return Since Past 10 Years. Your Prediction For This Year Is Also Above Average.	MALE	126	3.5000	1.01784	.09068	.388	.534
	FEMALE	224	3.4375	.82865	.05537		
	Total	350	3.4600	.90040	.04813		
After Making An Investment In A Stock, You Overhear A News Report, Which Implies That It Does Not Perform Well. The Information Confirms That You Have Made A Wrong Decision	MALE	126	2.8889	.93998	.08374	5.177	.023
	FEMALE	224	3.0938	.72443	.04840		
	Total	350	3.0200	.81332	.04347		
I Prefer Buying Of Stock In Downward Trend	MALE	126	3.2222	.91990	.08195	.467	.495
	FEMALE	224	3.1563	.83513	.05580		
	Total	350	3.1800	.86588	.04628		
*Significant at 0.05 level.							
Std. Dev., standard deviation; Sig., Significance Level; F-Value, ratio of two sample variances.							

### Gender v/s self- attribution

#### H2: women are less self-attributive than men

Table 3 shows the response for perception based on gender for self-attribution. The mean score for “ If My Portfolio Does Well, I Will Give Credit To My Investment Skills” given by the male respondents is 3.55 and for female respondents is 3.81. The ANOVA output shows F-value is 8.107 and significance is < 0.05, the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. The mean score for “ After Making An Investment, I Hear News Which Is Not Supporting My Investment Decision. I Give Blame To My Awful Luck.” given by the male respondents is 2.28 and for female respondents is 2.93.

The ANOVA output shows F value is 34.751 and significance is < 0.05, the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. The mean score for The Return On My Investment Was Above Average, Due To My Specific Skills.” given by the male respondents is 3.66 and for female respondents is 3.46. The ANOVA output shows F-value is 4.745 and significance is < 0.05, the mean difference is significant which implies that

difference in response on the basis of gender is statistically significant. The mean score for its Not Always Wise for Me to Save, As Many Things Turn out to Be a Matter of Good or Bad luck” given by the male respondents is 2.89 and for female respondents is 3.43. The ANOVA output shows F-value is 21.782 and significance is < 0.05, the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. The mean score for “I Feature My Investment Success to My Acquaintance and Understanding of the Stock Market” given by the male respondents is 3.72 and for female respondents is 3.65. The ANOVA output shows F-value is 0.416 and significance is > 0.05, the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. The mean score for “I Ignore the Association between Different Investment Possibilities” given by the male respondents is 2.84 and for female respondents is 3.25. The ANOVA output shows F-value is 14.408 and significance is < 0.05, the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. Hence the null hypothesis is rejected

**Table 3: Gender v/s self- attribution**

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						F	Sig.
If My Portfolio Does Well, I Will Give Credit To My Investment Skills	male	125	3.5520	.90211	.08069	8.107	.005
	female	224	3.8125	.76973	.05143		
	Total	349	3.7192	.82782	.04431		
After Making An Investment, I Hear News Which Is Not Supporting My Investment Decision. I Give Blame To My Awful Luck.	male	125	2.2800	1.05188	.09408	34.751	.000
	female	224	2.9375	.96839	.06470		
	Total	349	2.7020	1.04635	.05601		
The Return On My Investment Was Above Average, Due To My Specific Skills	male	125	3.6640	.94991	.08496	4.745	.030
	female	224	3.4688	.70800	.04731		
	Total	349	3.5387	.80717	.04321		
It'S Not Always Wise For Me To Save, As Many Things Turn Out To Be A Matter Of Good Or Bad luck.	male	125	2.8960	1.10588	.09891	21.782	.000
	female	224	3.4375	1.00028	.06683		
	Total	349	3.2436	1.06983	.05727		
I Feature My Investment Success To My Acquaintance And Understanding Of The Stock Market	male	125	3.7200	.93843	.08394	.416	.519
	female	224	3.6563	.85372	.05704		
	Total	349	3.6791	.88418	.04733		
I Ignore The Association Between Different Investment Possibilities	male	125	2.8400	1.17364	.10497	14.408	.000
	female	224	3.2500	.83101	.05552		
	Total	349	3.1032	.98595	.05278		
*Significant at 0.05 level.							
Std. Dev., standard deviation; Sig., Significance Level; F-Value, ratio of two sample variances.							

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## Gender v/s risk averse

### **H3: woman's are more risk averse than men**

Table 4 shows the perception of the respondent which is classified on the basis of gender. The mean score for "I Take A Decision To Purchase A Stock, But Just Before Buying A Stock If I Hear News Which Is Not Supporting My Decision. But I Will Stick To My Earlier Decision." given by male respondent is 2.88 and by female respondent is 3.12. the ANOVA table shows F value of 5.164 and significance value  $< 0.05$ . Since the significance value if  $< 0.05$ , the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. Hence the null hypothesis is rejected

### **H4: by less risk , men perform less than woman in trading**

Table 4 shows the perception of the respondent which is classified on the basis of gender. The mean score for "If There Is Negative Market Information Related To My Investment Option Then I Will Change My Decision." given by male respondent is 3.44 and by female respondent is 3.78. the ANOVA table shows F value of 11.995 and significance value  $< 0.05$ . Since the significance value if  $< 0.05$ , the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. The mean score for "I Prefer To Invest In Already Known Funds" given by male respondent is 3.77 and by female respondent is 3.93. the ANOVA table shows F value of 2.923 and significance value  $> 0.05$ . Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. The mean score for "I Often Find It Comfortable To Select The Investment From Another Person'S View" given by male respondent is 3.33 and by female respondent is 3.34. the ANOVA table shows F value of 0.008 and significance value  $> 0.05$ . Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. The mean score for "I Take The Responsibility Of Managing My Portfolio And I Trust My Decisions" given by male respondent is 3.94 and by female respondent is 3.84. the ANOVA table shows F value of 1.038 and significance value  $> 0.05$ . Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. The mean score for "I Think It Is More Important To Have Safe Investments And Guaranteed Returns, Than To Take A Risk To Have A Chance To Get The Highest Possible Returns" given by male respondent is 3.66 and by female respondent is 3.81. the ANOVA table shows F value of 1.499 and significance value  $> 0.05$ .

Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. Hence the null hypothesis is accepted.

Table 4: Gender vs risk averse							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						F	Sig.
I Take A Decision To Purchase A Stock, But Just Before Buying A Stock If I Hear News Which Is Not Supporting My Decision. But I Will Stick To My Earlier Decision.	male	126	2.8889	1.05240	.09376	5.164	.024
	female	224	3.1250	.85888	.05739		
	Total	350	3.0400	.93857	.05017		
If There Is Negative Market Information Related To My Investment Option Then I Will Change My Decision.	male	126	3.4444	1.01631	.09054	11.995	.001
	female	224	3.7813	.78175	.05223		
	Total	350	3.6600	.88693	.04741		
I Prefer To Invest In Already Known Funds	male	126	3.7778	.85687	.07634	2.923	.088
	female	224	3.9375	.82865	.05537		
	Total	350	3.8800	.84120	.04496		
I Often Find It Comfortable To Select The Investment From Another Person'S View.	male	126	3.3333	1.05830	.09428	.008	.927
	female	224	3.3438	.98993	.06614		
	Total	350	3.3400	1.01358	.05418		
I Take The Responsibility Of Managing My Portfolio And I Trust My Decisions	male	126	3.9444	1.02999	.09176	1.038	.309
	female	224	3.8438	.79666	.05323		
	Total	350	3.8800	.88761	.04744		
I Think It Is More Important To Have Safe Investments And Guaranteed Returns, Than To Take A Risk To Have A Chance To Get The Highest Possible Returns.	male	126	3.6667	1.25220	.11155	1.499	.222
	female	224	3.8125	.95205	.06361		
	Total	350	3.7600	1.07036	.05721		
*Significant at 0.05 level.							
Std. Dev., standard deviation; Sig., Significance Level; F-Value, ratio of two sample variances.							

## Gender and self-control

### H5: woman are more prone to self-control bias than men

Table 5 shows the perception of the respondent which is classified on the basis of gender. The mean score for "I Am Generally Able To Protect My Personal And Present Interests" given by male respondent is 4.16 and by female respondent is 4.12. the ANOVA table shows F value of 0.58 and significance value  $> 0.05$ . Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant. The mean score for "While Investing, I Always Plan For Retirement" given by male respondent is 3.38 and by female respondent is 3.62. the ANOVA table shows F value of 3.398 and significance value  $> 0.05$ . Since the significance value if  $> 0.05$ , the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant.

The mean score for “I Always Put My Income In Different Buckets As Of Retirement, Health, Home, Entertainment Etc.” given by male respondent is 3.77 and by female respondent is 3.90. the ANOVA table shows F value of 1.749 and significance value >0.05. Since the significance value if > 0.05, the mean difference is not significant which implies that difference in response on the basis of gender is statistically not significant.

The mean score for “If I Have Savings Of Inr 2,00,000, I Would Prefer To Deposit Them In A Saving Bank Account Rather To Invest In Stocks To Avoid The Risk” given by male respondent is 2.83 and by female respondent is 3.53. the ANOVA table shows F value of 22.072 and significance value < 0.05. Since the significance value if < 0.05, the mean difference is significant which implies that difference in response on the basis of gender is statistically significant. Hence the null hypothesis is accepted.

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						F	Sig.
I Am Generally Able To Protect My Personal And Present Interests	male	126	4.1667	.60332	.05375	.580	.447
	female	224	4.1250	.41551	.02776		
	Total	350	4.1400	.49101	.02625		
While Investing, I Always Plan For Retirement	male	126	3.3889	1.25839	.11211	3.398	.066
	female	224	3.6250	1.08496	.07249		
	Total	350	3.5400	1.15421	.06170		
I Always Put My Income In Different Buckets As Of Retirement, Health, Home, Entertainment Etc.	male	126	3.7778	1.03452	.09216	1.749	.187
	female	224	3.9063	.76654	.05122		
	Total	350	3.8600	.87326	.04668		
If I Have Savings Of Inr 2,00,000, I Would Prefer To Deposit Them In A Saving Bank Account Rather To Invest In Stocks To Avoid The Risk.	male	126	2.8333	1.46833	.13081	22.072	.000
	female	224	3.5313	1.25241	.08368		
	Total	350	3.2800	1.37368	.07343		
*Significant at 0.05 level.							
Std. Dev., standard deviation; Sig., Significance Level; F-Value, ratio of two sample variances.							

The result of our study shows that (1) woman are less overconfident then men (2) women are not less self-attributive than men (3) woman are not more risk averse then men (4) by less risk, men perform less then woman (5) woman are more prone to self-control bias than men.

## CONCLUSION AND DISCUSSION

Traditional finance assumes that investors are more rational while investing in the funds. Behavioural finance loosen up the traditional assumption of finance by incorporating the noticeable behaviour of humans from rationality to standard models. One of the the noticeable behaviour is Overconfidence.



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This study draws an overall picture of impacts of four behavioral factors on the investment patterns of gender. This study also indicates that the role of gender on overconfidence have prove that the women are less confident than men, as we have already studied in the previous studies of eminent author such as Deaux K. and Farris E. (1977), Meeham A.M. and Overton W.F. (1986), Estes R.H. and Hosseini J. (1988), Beyer S. (1990), Olsen and Cox (2001). The result got from the analysis implies that the women investors are not conservative or risk averse and not cling to their prior views. Women Investor welcomes the newer information about investment because they found it appropriate or beneficial, as compared to the investment option they are already dealing in. As the maximum percentage of respondents are conservative in their actions and sure that they will cross check the reasons of underperformance of their security, shows their conservative nature. Because of this attitude they may miss an opportunity or a vital piece of information benefiting their portfolio. There is a significant difference in both genders with regard to risk perspective. The empirical results from the above shows that women are less risk averse than men and men move towards more risk neutral behaviour. So we can conclude that male investor invest money on the basis on their return and safety perspective.

When we comparing self attribution nature among gender, we found that women are less self attributive than men. Women does not give credit of their success to themselves and nor transfer the guilt of breakdown to outside influence. The above study validates the presence of bias among the various investors. Gender does have an impact on investor's bias. This study contributes to the existing studies on behavioral biases, particularly the influence of gender on overconfidence and conservatism bias. This study also helps the financial advisors and individual investors for taking their financial decisions.

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