

A Study on the Impact of Investment Experience, Gender and Level of Education on Overconfidence and Self-Attribution Bias

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Abstract: The behavioral finance idea emphasizes that emotional and psychological aspects play a significant role in investment decisions. Behavioral finance is a relatively recent and widely adopted idea that offers an intriguing alternative to traditional finance. This study attempts to determine the impact of an investor's investing gender, experience, and educational level on self-attribution and overconfidence bias when making investment decisions. Institutional and individual investors alike are increasingly interested in financial markets. Communications and information have become extremely quick and accessible. This study intends to determine the impact of investor gender, experience, and educational attainment on two specific biases: overconfidence and self-attribution. This research attempts to examine not just the relationship between the aforementioned specific biases, but also their interdependence. The studies in this study are arranged in the following order. The first section demonstrates self-attribution and overconfidence bias in relation to the individual investor. It is backed up by a review of prior studies that show the influence of experience, gender, and education level on self-attribution and confident bias.

Keywords: Investor, Over Confidence, Self-attribution, Investor education, Investment experience

1. INTRODUCTION

Behavioral finance concept highlights that investment decision is affected in a big proportion by emotional and psychological factors. Behavioral finance is a relatively new and big impact concept which reflects an interesting way to classical finance. This study aims to find out the effect of investor's investment gender, experience, and degree of education over self-attribution as well as on overconfidence bias while choosing and taking their investment decisions. Today investing in financial markets has become popular for institutions as well as individual investors. Communications and information have become very fast and easily available. Without any doubt, investment decisions rely on the object and financial status in the near future, but short-term value changes are driven by market components that are not solely based on logic, some instances are driven by mood and instantly "received news". Behavioral finance tells a new, different perspective, very complex and even unconventional. Human emotional behavior includes many primary feelings such as: panic, greed, envy, anxiety, euphoria, ambition, satisfaction, fear or vanity.

Behavioral finance plays a vital role in influence of the psychological factors of financial markets evolution. We can say that, financial markets less or inefficiency is seen in the focus of the psychological theories and its perspectives. The traditional finance takes assumption that capital markets is more efficient, investors is rational and it is impossible to outperform the market over long-term time. Psychological related principles of behavioral finance contain among others social forces heuristics and overconfidence, biases, emotion and heuristics. A very prominent step for an investor is to know and accept his or her financial personality. We can say that, in the place of investor is highly important to know why he or she make financial decisions and how likely you are to react to common situations of uncertainty. This form of study is useful in a way to understand how we could temper the non-rational component of investment decision though we are still busy in satisfying our individual preferences and many requirements. The behavioral finance theories are new and somewhat complex. The volume of existing studies is very less and limited. Although, behavioral finance has wide role on people's day to day decisions in respect to their purchasing habits. The area of investments includes the direct as well as indirect indication of behavioral finance is very strong. However, while examining investor's behavior in the way to know the fluctuations in the money markets is necessary. This knowledge may highlight major advantages in the coming future.

Shefrin (2007) has defined bias as the pre-disposition in connection with error: It means prejudice to form decisions that are already being determined by an underlying motive. Psychologists continuously in past has tried to find the form of mistakes people are vulnerable while making selection. Study also points that many people are influenced by many behavioral factors like decision making affected by cognitive biases, relatively than been rational as well as wealth maximizing (Forbes, 2009).

This study aims see the effect of investor gender, experience and the degree of education over specific given biases, that are studied here i.e., overconfidence and self-attribution. This paper not only makes an attempt at analyzing the connection between the above given specific bias but also their dependence on each other. The studies in this research are ordered in this study in following way. The initial part shows self-attribution and over confident bias with its connection to the individual investor. It is supported by reviewing from previous studies pointing the influence of experience, gender and degree of education over self-attribution as well as over confident bias. The next part shows questionnaire and methodology of the study. At last final part brings the major findings, supported by discussion as well as its conclusion.

2. DEMOGRAPHIC FACTORS OF INVESTOR AND INVESTMENT DECISIONS

2.1 Investor Biases: Overconfidence bias

This can be defined as when an investor tries to overestimate his abilities by continuous success. He starts to think that they have extraordinary skills to predict the market better than others. This could be due to good past results or outcome which investor received from the shares he invested in. This can be dangerous as the investor than try to invest more in the market. They start to think that they are gifted. In new investor this effect is very common. Overconfidence leads to many negative impacts on investor career. This leads to investor buying risky and expensive stocks. He starts trading too much resulting in destroying and detrimental of his own portfolio. This is like when you ask any investor to rate himself as an investor than most of the investor will rate themselves as above average. Overconfidence decreases with the experience in investing. Proper knowledge and research can help investor to avoid this bias. Being optimistic is good but overconfidence led to this bias. It is seen that in investing community men are more probable to be overconfident as compared to women. So, investor should not get overexcited by the performance of the shares. The investor should always think whatever he gets as an outcome that he is highly certain about the performance. There is a small line between confidence and overconfidence.

The investor should think that share market is subject to risk and there is equal probability for an investment to rise or fail. If investor will think that success came to me and failure could be in the way than he will certainly be not overconfident. Investor should think that success is part and parcel of investment no one is perfect and gifted. Anything over is dangerous may it be overtrading or overconfidence. Also, overconfidence is dependent on self-attribution bias. Investors should have diversified investments in its portfolio.

2.2 SELF-ATTRIBUTION BIAS

Self-attribution is when investor take credit of high profit he earned by the investment and not taking credit of the loss if it happens. In case of loss investor give other factors the reason of non-success may be blaming his luck, the broker, etc. In simple language we can say that attributing the positive outcome to his self-character and attributing negative outcome to the external factors. In investment community it is common. Individual if toss a coin if he wins, he says I win and if loses he say it's a chance. For example, you pass with good grades you congratulate yourself to have study hard and if you fail give reason that teachers are not good. It comes to investor when investor is very obsessed by the praise or he is very egoistic person. Other factor for this may be tendency to blame others, lack of accountability. It is more in young and inexperienced investor and less in experience investor. Self-attribution bias also understands by the LOC concept which is locus of control which is person belief about causes of event. It is of two types internal and external. If appreciating own hard work and knowledge it is internal and if blaming external factor, it is external loc. To avoid this bias investor should always do after research or analysis of the performance of investment. Investor should not be overconfident and do full analysis before coming to any conclusion. As self-enhancing and self-protecting becomes a habit and not only can decrement your investment but also can harm your personal life too. Blaming others will avoid you to realize your mistake and one will eventually make bad decisions.

THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Different researches and studies on behavior of investor have proved the presence of non-rational thinking in decision making of investor. Behavioral researchers have found in studies of human behavior that tell the causes for under as well as over-valuation in market. There is various research on effect of investment gender, experience and degree of education over self-attribution as well as over confident bias. Many research and study have been carrying out to predict the perceptions of investors and the investment preferences in regard to gender, age, education and occupation.

Stendardi, (2006) examine that personality is a trait that is dynamic and also has a likelihood to waiver and switch with time, the process is slow, and also takes comparable period of time and also is stable in various situations and instances. So, we can say that personality makes major impact in making the decisions of any individual. There have been researches on investors behavior as well as the impact on investments but also there is a smaller number of studies on the investors' perceptions and impact on the investment decisions. The appearance of gender and education over investment decisions have been the center of behavioral finance literature.

Sreelaxmi & Bhanusireesha, (2013) found in their study on "Impact of demographic factor on selected investment avenues" study shows the outcome of test carried on effect of demographic factors over investment avenues carried by investors in the city of Hyderabad and Secunderabad, India. It is found that gender, age and experience are most influencing the investment decisions of the investors. It is summarizing that the investors of the study are nature wise conservative and seems less concern for liquidity and money.

Shunmugathangam (2017) studied on "Dependency of behavioral finance in decision making of investment a study was confined and limited to Andhra Pradesh, India." and summarize that Investors don't act wise in making decisions relating to the investment. They have following weakness like emotional and cognitive which makes a prominent role in making investment decision of any individuals (Jain *et al.*, 2020). They had various behavioral biases in the way of making investment decision. Investment decisions also depends on the types of investors, education, occupation, risk tolerance capacity, sex, income, age, family back ground, marital status, living area, environment and attachment with financial advisor etc. In spite of all the resources and infrastructure, investors take avenues after analyzing various factors which are affected by internal and external environments.

For this an organize analysis has been carried out by taking data collected from structure questionnaire and secondary data. Das and Jain (2014) conduct a study titled "A study on the effect of demographic variables on the factor investment- a study on the Guwahati". The study showed that among other factors, demographic variables is one of the most important factors which effect financial decision taking of investors. This study points on the connection between the various demographic variables like, age,

gender, occupation and education with the important purpose of investment such as risk, retirement return, and tax which effects the buying decision of the investors. A sample of 150 investors was interview and analysis was done by software SPSS. The study also emphasizes the idea that demographic variables also play a major role over the mindset of the investors which is moved by age and educational qualification.

Geetha, and Ramesh (2012) studied a relevancy of demographic factors in investment decisions. This study is an attempt to found the importance of demographic factors such as gender, age, education, income, savings, occupation, and family size on various elements of investment decisions such as priorities base on, period of investment, characteristics of investments, frequency of investment, reach of information source, and analytical ability.

The study was carried by carrying a survey in Nagapattinam district of Tamilnadu and South India the statistical results were analyzed using computer software tool. The study shows the demographic factors had a major effect over some of the investment decision and insignificant in other elements. The study also highlights a view of investor's perception on different investment avenues (Jain *et al.*, 2020).

Bashir *et al.*, (2013) performs study on assessment study on the "Factors which affects any Investor Decision taking Behavior". This study objective is to identify the factors that effects the behavior of Pakistan investor. Thirty-four articles are put under five categories of variables were put as independent variable that effects the individual investment decision taking behavior that relates to self-image and firm image, accounting information, neutral information, advocate recommendations and personal financial needs. Data collection is made possible by structured questionnaires. Sample of 120 was taken for the test out of which 40 was finance students of the University of Gujarat, 30 among them were finance teachers from various colleges and 55 was bank worker of Sialkot, Gujranwala, Lahore and Gujarat. Calculated mean results shows that all the variables are somewhere affecting the decision taking behavior of investor and information of accounting category of variables is highly affected while advocate recommend is the less influencing category.

Frequency table of highly affecting variables were shown that out of them total 33 articles and the 6 most affecting items which belong to self-image and firms' image and information like reputation of firm, dividend paid, get rich quick, firm's involvement in solving community problems, and firms' status in industry, feelings for a firm's products and services. On opposite side factor that were seen to be less affecting w.r.t., order of importance was friend or worker recommendations, recent price movement in the firm's stock, Family member opinion and Broker recommendation, Religious Reason, related to other variable categories.

This study objective is to know the effect of investor gender, experience and degree of education over self-attribution bias for mutual fund investors. The foremost objective of the study is to understand the results of investment gender, experience and degree of education over biases self-attribution and overconfidence.

These literatures were reviewed and hypotheses are developed as per the objectives of the study as follows;

H1: Gender of investor had an effect on overconfidence and self-attribution. H2: Self-attribution and overconfidence are affected by investor education.

H3: Investment Experience of investors influences the self-attributive and overconfidence bias.

3. RESEARCH METHODOLOGY

The method used here is survey research method, by taking a survey with asking questions over overconfidence and self-attribution bias. Statistical tool used to analyze the mean difference here is ANOVA test to see relation between demographic factors i.e., age, gender and education taken as independent variable over overconfidence and self-attribution bias taken as dependent variable. In the study a Google form is created and 72 investors who work in respondent data was analyzed. Under experience it is categorized as below two year of experience and above two years. For gender two categories are made i.e., male and female. For level of education three categories were made as high school, graduate and post graduate. After this demographic information questions relating to their views on overconfidence and self-attribution were asked. Where they have to choose on a Likert scale ranging from below average to well above average choices were given. For calculation well above average taken as numeric value 4 and below average as 1 accordingly ANOVA test is performed. Their feelings were expressed by the choice they made. Each investor was asked four questions on self-attribution and five questions on overconfidence. Investor were asked situational and common question which require no brainstorming. The responses are then analyzed using Microsoft excel data analysis option where data was analyzed in ANOVA single factor. The value of alpha was taken as 0.05. The questions asked were abbreviated as OC1 to OC5 for overconfidence and SA1 to SA5 for self-attribution. The questions relating to biases were:

- 1) How would you rate yourself on your job?
- 2) Compare to others, how good are you with your diving skills?
- 3) Compare to others, how good are you in your investments?
- 4) How good are you with your personal investment?
- 5) How well can you predict future share prices better than others?

Likewise, to see the thoughts of investor over self-attribution bias certain situational questions were asked. The questions were:

- 1) After loss in some investment how likely you try to find out the reasons of a bad performed investment decision?
- 2) After loss in investment how likely you take accountability of that investment?

- 3) After a good investment how likely you work with same intensity for other investment?
 4) If a good investment is due to others recommendation how likely you give credit to them?

4. RESULTS AND DISCUSSION

According to the responses the data is analyzed using ANOVA to see the effect of education, experience and age over overconfidence and self-attribution bias. The mean difference is analyzed as significant and not significant according to significance value after comparing it with α i.e., 0.05. This data gathered through questionnaire were studied to draw conclusion in respect to the hypotheses which were frame to know the difference in opinion in respect of gender, education and investment experience of the investors towards self-attribution and overconfidence bias. The below table is a descriptive statistic of demographic characteristics provided by the investors.

Table 1: Demographic Variable

Variable	Levels	Frequency	Percentage
Gender	Male	54	75.00%
	Female	18	25.00%
Education	High School	5	6.94%
	Undergraduate	38	52.77%
	Postgraduate	29	40.27%
Experience of investment	Less than 2 yrs	21	29.16%
	More than 2 yrs	51	70.83%

The table 1 shows that the sample of bank customers used in this study included more males (75%) than females (25%) and more post graduates (40.27%) than other categories. Similarly, the investors with an experience above two years (70.83%) and below 2 years (29.16%). The second part of the analysis use ANOVA to study the perceptual difference between the investors across gender, level of education and their experience in investment is exhibited in subsequent tables.

Table 2: Overconfidence, Self-Attribution bias and Experience

Statements	Experience	Mean	F value	Significance
OC1	Less than 2 years	2.47	3.000	0.087
	More than 2years	2.80		
OC2	Less than 2 years	2.76	1.726	0.193
	More than 2years	2.98		
OC3	Less than 2 years	2.33	6.699	0.011
	More than 2years	2.74		
OC4	Less than 2 years	2.09	2.887	0.093
	More than 2years	2.37		
OC5	Less than 2 years	1.85	2.010	0.160
	More than 2years	2.57		
Over confidencebias	Less than 2 years	2.33	5.596	0.020
	More than 2years	2.64		
SA1	Less than 2 years	2.09	3.898	0.052
	More than 2years	2.33		
SA2	Less than 2 years	1.80	2.011	0.160
	More than 2years	1.62		
SA3	Less than 2 years	2.04	2.539	0.115
	More than 2years	2.21		
SA4	Less than 2 years	1.90	0.465	0.497
	More than 2years	1.98		
Self-Attribution	Less 2 years	1.95	0.295	0.588
	More than 2years	2.03		

The table is made in response of studying the relation of self-attribution with level of education. For question SA1 the mean for less than two years is 2.09 and for more than two years are 2.33. The F value in response for SA1 is 3.898 and sig. value for same is 0.052. Here significance value is somewhat equal to 0.05, so it can be inferred as difference of the mean is statistically significant. For question SA2 the mean is less than two years is 1.80 and for more than two years is 1.62. The F value in response for SA2 is 2.011 and sig. value for same is 0.16. Here significance value is more than to 0.05, so it can be inferred as difference of the mean is not statistically significant. For question SA3 the mean is less than two years is 2.04 and for more than two years are 2.21. The F value in response for SA3 is 2.539 and sig. value for same is 0.115. Here significance value is more than to 0.05, so it can be inferred as difference of the mean is not statistically significant. For question SA4 the mean is less than two years is 1.90 and for more than two years are 1.98. The F value in response for SA4 is 0.465 and sig. value for same is 0.497. Here significance value is more than to 0.05, so it can be inferred as difference of the mean is not statistically significant. So, the mean for self-attribution as a whole

for less than two years is 1.95 and for more than two years is 2.01. The F value in the table is 0.295 and significance value is 0.588. We see that significance value is more than 0.05 hence the difference of the mean is not significant. So, from here it can be inferred that there is no significant difference among investor experience and self-attribution. Therefore, null hypothesis is accepted.

The table is made in response of studying the relation of overconfidence with level of education. For question OC1 the mean for less than two years is 2.47 and for more than two years are 2.8. The F value in response for OC1 is 3.00 and sig. value for same is 0.087. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question OC2 the mean is less than two years is 2.76 and for more than two years are 2.98. The F value in response for OC2 is 1.726 and sig. value for same is 0.193. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question OC3 the mean is less than two years is 2.33 and for more than two years are 2.74. The F value in response for OC3 is 6.699 and sig. value for same is 0.011. Here significance value is less than 0.05, so it can be inferred as difference of the mean is statistically significant. For question OC4 the mean is less than two years is 2.09 and for more than two years are 2.37. The F value in response for OC4 is 2.887 and sig. value for same is 0.093. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question OC5 the mean is less than two years is 1.85 and for more than two years are 2. The F value in response for OC5 is 2.01 and sig. value for same is 0.160. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. So, the mean for overconfidence as a whole for less than two years is 2.33 and for more than two years is 2.64. The F value in the table is 5.596 and significance value is 0.02. We see that significance value is less than 0.05 hence the difference of the mean is significant. So, from here it can be inferred that there is significant difference among investor experience and overconfidence. Therefore, null hypothesis is evidently rejected.

The table is made in response of studying the relation of self-attribution with gender. For question SA1 the mean male is 2.11 and for female are 2.11. The F value in response for SA1 is 0.02 and sig. value for same is 1. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question SA2 the calculated mean male is 1.83 and for female are 2. The F value in response for SA2 is 1.693 and sig. value for same is 0.197. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question SA3 the calculated mean male is 2.03 and for female are 2.16. The F value in response for SA3 is 1.884 and sig. value for same is 0.174. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question SA4 the calculated mean male is 2.05 and for female are 2.00. The F value in response for SA4 is 0.33 and sig. value for same is 0.567. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. So, the calculated mean for self-attribution as a whole for male is 2.00 and for female is 2.055. The F value in the table is 0.42 and significance value shown is 0.519. We see that significance value is more than 0.05 hence the difference of the mean is not significant. So, from here it can be inferred that there is no significant difference among investor gender and self-attribution. Therefore, null hypothesis is accepted.



Table 3: Overconfidence, Self-attribution bias with Gender

Statements	Experience	Mean	F value	Significancevalue
OC1	Male	2.68	2.273	0.136
	Female	2.44		
OC2	Male	2.88	0.603	0.439
	Female	3.00		
OC3	Male	2.72	9.634	0.002
	Female	2.33		
OC4	Male	2.62	17.680	0.000
	Female	2.11		
OC5	Male	2.27	12.173	0.000
	Female	1.83		
Over confidencebias	Male	2.63	3.728	0.057
	Female	2.34		
SA1	Male	2.11	0.02	1
	Female	2.11		
SA2	Male	1.83	1.693	0.197
	Female	2.00		
SA3	Male	2.03	1.884	0.174
	Female	2.16		
SA4	Male	2.055	0.330	0.567
	Female	2.00		
Self-Attribution	Male	2.006	0.42	0.519
	Female	2.06		

The table is made in response of studying the relation of overconfidence with gender. For question OC1 the mean male is 2.68 and for female are 2.44. The F value in response for OC1 is 2.273 and sig. value for same is 0.136. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question OC2 the calculated mean male is 2.88 and for female are 3.00. The F value in response for OC2 is 0.603 and sig. value for same is 0.439. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question OC3 the calculated mean male is 2.72 and for female are 2.33. The F value in response for OC3 is 9.634 and sig. value for same is 0.002. Here significance value is less than 0.05, so it can be inferred as mean difference is statistically significant. For question OC4 the mean male is 2.62 and for female are 2.11. The F value in response for OC4 is 17.68 and sig. value for same is 0.00. Here significance value is less than 0.05, so it can be inferred as difference of the mean is statistically significant. For question OC5 the mean male is 2.27 and for female are 1.83. The F value in response for OC5 is 12.173 and sig. value for same is 0.00. Here significance value is less than 0.05, so it can be inferred as difference of the mean is statistically significant. So the mean calculated for overconfidence as a whole for male is 2.63 and for female is 2.34. The F value in the table is 3.728 and significance value shown is 0.057. We see that significance value somewhat is equal to 0.05 hence the difference of the mean is significant. So, from here it can be inferred that there is no significant difference among investor gender and overconfidence. Therefore, null hypothesis is evidently rejected.

Table 4: Overconfidence, Self-attribution bias with education

Statements	Experience	Mean	F value	Significancevalue
OC1	High school	2.00	0.942	0.394
	Graduate	2.60		
	Post Graduate	2.62		
OC2	High school	2.60	0.587	0.558
	Graduate	2.89		
	Post Graduate	2.96		
OC3	High school	2.00	3.121	0.05
	Graduate	2.44		

	Post Graduate	2.82		
OC4	High school	1.80	3.072	0.05
	Graduate	2.44		
	Post Graduate	2.68		
OC5	High school	1.40	2.222	0.115
	Graduate	2.07		
	Post Graduate	2.24		
Over confidencebias	High school	1.96	9.516	0.002
	Graduate	2.48		
	Post Graduate	2.66		
SA1	High school	2.00	1.569	0.215
	Graduate	2.13		
	Post Graduate	2.41		
SA2	High school	2.00	0.656	0.521
	Graduate	1.73		
	Post Graduate	1.68		
SA3	High school	2.00	1.175	0.314
	Graduate	2.02		
	Post Graduate	2.24		
SA4	High school	1.80	2.504	0.089
	Graduate	1.92		
	Post Graduate	2.17		
Self-Attribution	High school	1.95	0.893	0.442
	Graduate	1.95		
	Post Graduate	2.12		

The table is made in response of studying the relation of self-attribution with education. For question SA1 the mean for high school is 2.00, for graduate are 2.13 and for post graduate are 2.41. The F value in response for SA1 is 1.569 and sig. value for same is 0.215. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant.

For question SA2 the calculated mean for high school is 2, for graduate are 1.73 and for post graduate are 1.68. The F value in response for SA2 is 0.656 and sig. value for same is 0.521. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question SA3 the calculated mean for high school is 2.00, for graduate are 2.02 and for post graduate are 2.24. The F value in response for SA3 is 1.175 and sig. value for same is 0.314. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question SA4 the calculated mean for high school is 1.80, for graduate are 1.92 and for post graduate are 2.17. The F value in response for SA4 is 2.504 and sig. value for same is 0.089. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. So, the calculated mean for self-attribution as a whole for high school is 1.95, for graduate is 1.95 and for post graduate is 2.12. The table shows F calculated value is 0.893 and significance value shown is 0.442. We see that significance value is more than 0.05 hence the difference of the mean is not significant. So, from here it can be inferred that there is no significant difference among investor gender and self-attribution. Therefore, null hypothesis is rejected.

The table is made in response of studying the relation of overconfidence with gender. For question OC1 the mean high school is 2.00, for graduate are 2.60 and for post graduate is 2.62. The F value in response for OC1 is 0.942 and sig. value for same is 0.394. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question OC2 the mean high school is 2.60, for graduate are 2.89 and for post graduate is 2.96. The F value in response for OC2 is 0.587 and sig. value for same is 0.558. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. For question OC3 the mean high school is 2.00, for graduate are 2.44 and for post graduate is 2.82. The F value in response for OC3 is 3.121 and sig. value for same is 0.05. Here significance value is equal to 0.05, so it can be inferred as difference of the mean is statistically significant. For question OC4 the mean high school is 1.80, for graduate are 2.44 and for post graduate is 2.68. The F value in response for OC4 is 3.072 and sig. value for same is 0.05. Here significance value is equal to 0.05, so it can be inferred as difference of the mean is statistically significant. For question OC5 the mean high school is 1.40, for graduate are 2.07 and for post graduate is 2.24. The F value in response for OC1 is 2.222 and sig. value for same is 0.115. Here significance value is more than 0.05, so it can be inferred as difference of the mean is not statistically significant. So, the calculated mean for overconfidence as a whole for high school is 1.96, for graduate is 2.48 and for post graduate is 2.66. The F calculated value is 9.516 and significance value shown is 0.002. We see that significance value is less compare to 0.05 hence the difference of the mean is significant. So, from here it can be inferred that there is significant difference among investor gender and overconfidence. Therefore, null hypothesis is rejected.

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