IMPACT OF OVERCONFIDENCE AND LOSS AVERSION BIASES ON INVESTOR DECISION MAKING BEHAVIOR: MEDIATING ROLE OF RISK PERCEPTION

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ABSTRACT

The purpose of this study is to investigate the influence of behavioral biases, overconfidence and loss aversion on the decision making behavior of individual equity investor by considering the risk perception as mediator. The results of the study are helpful for policy makers, financial advisors, equity investors, finance teachers, and finance students. The individual equity investor knows which bias is interrupting his decision making process, and who is reducing these biases and making their decision making level stronger. Data was collected through convenient sampling using questionnaires. The respondents were the investors of Islamabad stock exchange, brokerage houses and bankers. 250 questionnaires were distributed of which 160 were returned, making the response rate approximately 64% percent. The result indicated that investors are affected by overconfidence and loss aversion bias. Both biases have a significant impact.

The measure with the reworded items is shown in the Appendix 1.


INTRODUCTION

The investor’s gain is usually two types of returns as capital appreciation and dividends. Generally, equity investors objectives are minimize the risk level; maximize the returns, highly liquid investment, portfolio investments etc. Behavioral biases lead to bounded rationality where investors fail to evaluate the alternatives available to them so as to select the optimal alternative because decision making is affected by feelings, emotions and intuition, rather than rational considerations. Every investor takes many decisions which may be easy or complex and when we evaluate these decisions on the basis of different behaviors involved during the decision making process of an investor, they are called behavioral biases. “Behavioral finance deeply observes both the behavior of individual & market situation and the factors that influence the investor while its investment decision making process,” [53]. It is the study of how human psychology affects both the individual investor decision making process and the financial markets, and bias is nothing else but the inclination towards error.
In other words, bias is unfairness or propensity to make decisions while already being influenced by a fundamental belief [43].

There are several factors or behavioral biases which affect decision making. This research article presents overconfidence bias and loss aversion bias which affect the decision making behavior.

Overconfidence is the propensity for people to overestimate their knowledge, cognitive abilities and the precision of their information [10]. “People have a tendency to evaluate their current skills and they also avoid getting help from others during an investment. So, they completely depend on their own abilities. Therefore they search less help and direction during the decision making process” [43]. The biggest challenge for the analysis of overconfidence is to construct a reasonable measure of overconfidence. Biased beliefs naturally defy direct and precise measurement. Overconfidence is the weak area of people to overvalue their knowledge level, cognitive abilities and accuracy about their information level [10]. Once the stock market investors over value their skills, they take decisions which lead them to invest in market.

While “when an investor makes it sure not to face loss even earning less profit percentage it is called loss aversion”. It related to the individual’s desire to avoid losses than comparable profits. Loss aversion bias was developed by Kahneman & Tversky [23] as part of the original prospect theory. It is the tendency that people generally feel a stronger impulse to avoid losses than to acquire gains. The study also included one determinant of decision making in equity market which is risk perception that also serve as mediators of antecedent characteristics of the decision maker and the problem situation. Risk perception is defined as an individual’s assessment of how risky a situation is in terms of probabilistic estimates of the degree of situational uncertainty, how controllable that uncertainty is, and confidence in those estimates [3,9].

Many studies have been done on the relationship of biases and investment decision making but still there is a gap to bring in new moderators and mediators in it. Risk perception is an important mediator of the present study which is not tested before in such a basic mechanism. Biases are linked with the investment decision in most of the studies of developed countries, but there are less empirical studies conducted in developing countries like Pakistan. Pakistani culture is different from the western culture, so to reduce the irrational decision making behavior of individual investors, there is a need of research on these biases.

The purpose of the study will be to investigate the influence of behavioral biases overconfidence and loss aversion on the decision making behavior of individual equity investor by considering the risk perception as mediator. The results of the study will be helpful for the policy makers, financial advisors, equity investors, finance teachers and finance students. The individual equity investor will know which bias interrupted his decision making process, and who will reduce these biases and make their decision making level stronger. In the present study, we will provide evidence that might help by suggesting that whether affective feelings are functional or dysfunctional for decision making is largely dependent upon how people experience those feelings and what they do about them during decision making.

This study has theoretical as well as contextual contribution. Theoretically this article will contribute in prospect theory which represents that the investors’ behaviors are linked with their prospects mean biases and contextually, there are fewer studies available in Pakistan’s culture and context. Pakistan is included in developing countries where financial markets are inefficient.
Investors get abnormal gains as well as loss due to several reasons.

While considering the biases and decision making, the theory of bounded rationality posits that within an environment where cognitive capacity and time are limited, humans make decisions that are only partially rational (Herbert, 2000). The prospect theory is related to it as the marginal utility of a loss is strictly greater than the marginal utility of a comparable gain[50]. Although we have acknowledged that prospect theory does not explicitly consider risk perceptions, Sitkin and Pablo [45] suggested that the findings of prospect theory research are consistent with a negative relationship between perceived risk and making risky decisions. The theory of planned behavior describes the decision process where attitude towards behavior, subjective norm, and perceived behavioral control determine intention, which, in turn, affects behavior.

LITERATURE REVIEW

OVERCONFIDENCE BIAS AND INVESTOR DECISIONS

Overconfidence is a mental characteristic which has been found on financial specialists through bleeding edge research (Daniel et al, 1998). It makes an overestimation of the financial specialist’s specialized information and its capacity to control the instability, thinking little of dangers or risk of failure. Overconfidence bias was measured by four factors: self control, market knowledge, stock selection ability, and specific skill. The studies revealed that most investors were overconfident about their knowledge of equity market because of their number of years working in stock market [1,29]. Investor’s involvement was measured by seeing their trade activity and it was found that they liked the small profit and did short term investments with risk aversion. The decision making process is affected by the biases. Paluch [37] examined the overconfidence bias at different level of management and the result of this study identified that the upper and lower level managers have more overconfidence as compared to middle level managers.

Soll and Klayman [46] investigated that having appropriate confidence was important for making appropriate risky decisions, for knowing when to seek advice and information, and for communicating one’s knowledge. However, managers can also display overconfidence. In a similar way, Bhandari and Deaves [10] concluded that overconfidence is the tendency for people to overestimate their knowledge, abilities and the precision of their information. According to Hilton, Regner, Cabantous, Charalambides, & Vautier [22], being too confident in our abilities could lead to overcrowding out of new evidence or alternative perspectives.

The other overconfident phenomenon is the overestimation of preciseness of knowledge, which leads managers to become overly optimistic about favorable outcomes. Chuang and Lee (2006) found that overconfidence leads investors to “overweight their own private information at the expense of ignoring publicly available information”. Additionally, they brought other academics to prove that overconfident investors mistakenly attribute market gains to their own ability to pick winning stocks. Overconfidence leads investors to witness surprises, sometimes positive and sometimes negative, making the financial market inefficient based on their wrong forecasts because of their trap with overconfidence [42]. Overconfidence bias causes investors to trade excessively [35]. If professional investors are focused to an overconfidence bias, we should see an elevated trading activity after a good previous performance [38]. Paluch [37] Understanding overconfidence bias may assist organizations to make better decisions. Overconfidence behavior of investors leads to making better investment decisions.
H1: Overconfidence bias is positively associated with the investor’s decision.

LOSS AVERSION BIAS AND INVESTOR DECISIONS

The concept of loss aversion bias was developed by Kahneman and Tversky [23] making an addition to the prospect theory. A theory that investor value gains and losses in different manner, thusly, will build choices in light of gains expected instead of perceived losses. Subsequently, if an individual is given to choose from two equivalent decisions, one communicated regarding conceivable gains and the other in conceivable losses, individual will avoid the option of loss. This theory is also known as “loss-aversion theory or prospect theory”. So this theory concludes that the tendency of people is generally stronger to avoid losses than to acquire gains [48].

Loss aversion is usually referred to individual’s trend to ease losses as much as possible as compared to acquiring gains [25]. Previous studies recommend that, psychologically, losses are two times as influential as gains. Therefore loss aversion directs to risk aversion when investor assesses the likely gain, a risk averse individual will prefer those options in his decisions having low level of risk, this is because most slightly than make gains, they would rather stay away from losses [8]. However traditional finance considers this “endowment effect” as people are keen to pay more to keep something they own than to obtain something possessed by someone else, and any other conclusion of loss aversion is irrational [20].

Loss aversion is characterized by three properties. To begin with, riches is measured in respect to a given reference point. Secondly, the reduction in utility intimated by a negligible loss (with respect to the reference point) is constantly bigger (in supreme quality) than the increment in utility coming about because of a minimal increase. Thirdly, in spite of the fact that people are risk unwilling in the area of increases, they are danger cherishing in the area of losses (Kahneman and Tversky 1992). So the investors who have more loss averse attitudes will take least risky decisions. Koszegi and Rabin [28] stated that investors do not fully integrate decisions at hand with other decisions and events, but the loss aversion attitude of the investor will affect their investment in the financial market.

H2: Loss aversion bias is negatively associated with the investor’s decision.

RISK PERCEPTION AND INVESTMENT DECISION

Sitkin and Pablo [45] examined a number of potentially appropriate individual, organizational, and problem characteristics that have been recognized as predictors of risky individual decision making. Decision risk is used to illustrate the alternatives faces of a decision maker. Risk can also be used to characterize how risky an overall decision is as compared to other alternatives. Following Sitkin and Pablo, we defined decision risk as:

"The extent to which there is uncertainty about whether potentially significant and/ or disappointing outcomes of decisions will be realized" (1992: 10).

Investor fear comprises an investor’s general tendency toward financial risk which represents risk tolerance level and its current interpretation of the stock market’s riskiness which showed risk perception. Malmendier and Nagel [30] proposed that bad risk experiences can decrease investors’ willingness to take risks by decreasing their risk tolerance (i.e., the preference channel). Risk perception is likely to be affected by cognitive biases that arise out of ways of thinking known as heuristics [15].
H3: Risk perception is positively associated with the investor’s decision.

MEDIATING ROLE OF RISK PERCEPTION BETWEEN OVERCONFIDENCE BIAS AND INVESTMENT DECISION

Overconfidence is a concept that is borrowed from psychology. It manifests itself in the following forms: miscalibration of probabilities, better-than-average effect, illusion of control and unrealistic optimism. We are mainly interested in the first two types of overconfidence. Many studies analyze the role played by overconfidence in the behavior of investors. These studies clearly demonstrate that overconfidence can lead to excessive trading in financial markets (Odean, 1999, Barber and Odean, 2001, Barber and Odean, 2002 and Glaser and Weber, 2007). In the domain of financial markets, Glaser et al. [18] demonstrate that people have a tendency to underestimate the future volatility of stock returns. Finance professionals are largely overconfident in both the general and professional domains.

The second measure of overconfidence is the better-than-average effect. It hints at the fact that people believe they are above average and that individuals have unrealistically positive perceptions of themselves [14,47]. The errors made by the professionals are related to the length of their confidence intervals. Risk perception and overconfidence strongly impact the risk-taking behavior of professionals [11].

Decision-makers exhibiting overconfidence, treat their assumptions as facts. They may not see the uncertainty associated with conclusions stemming from those assumptions. They, therefore, may inaccurately conclude that a certain action is not risky. The overconfidence bias lowers an individual’s perception of the riskiness of a strategy [7,40].

There is some evidence that overconfidence plays an especially important role when one considers whether to start a venture. Busenitz and Barney [12] found entrepreneurs display greater overconfidence than managers do. Although their study examined entrepreneurs after they started a venture, a tendency towards overconfidence may have affected these entrepreneurs when they were initially evaluating the ventures’ riskiness.

H4: Risk perception is positively mediating the relationship of overconfidence bias with the investor’s decision.

MEDIATING ROLE OF RISK PERCEPTION BETWEEN LOSS AVERSION BIAS AND INVESTMENT DECISION:

Loss aversion means that transformation from reference points may be esteemed differently depending on whether they are gains or losses; in exacting, people are extra sensitive to losses as compared to gains. In this regard, this theory predicts that the complete level of the change in demand due to a loss is greater than the equivalent impact of an equal gain [32]. Loss aversion refers to the fact that people are likely to be extra sensitive to decrease in their wealth than to increase [48].

The rationality of investors has been a main statement in the majority of theories of finance. Financial theorist of the traditional finance often assumes that an investor’s decisions are rational because they are on the base of sound financial knowledge, details and information. While behavioral finance states that the nature of human is irrational based on traditions, belief and norms, the divergence of human beings from it proves it to be imperfect in the decision making [49]. Psychological biases always affect the decisions of the investors. Froot and Dabora [17] have found that same shares and securities have different prices due to different nature of human beings and the emotions they include in their decision making. Nikiforow [33] in his study on fund managers found that even a highly effective
training cannot change the irrationality of human in their decision somehow emotion will be always there. The impact of psychological biases varies from person to person, due to difference in the personality [13,19,31,36,51]. Behavioral finance is established on the base of classical financial theory, but behavioral finance excludes the assumption of traditional finance concept that investors are rational. Behavioral finance declares that investor also includes their emotions and belief along with their financial knowledge while making investment decisions (Barber & Odean, 2000), and which make the decisions of the investor irrational and the term used for this irrationality in the decision making is known as “narrow framing”; while the traditional finance states that the investors are rational in their investment decisions [16] and those investors are considered rational actors in the financial market, and they take their decisions on the basis of sound financial knowledge.

**H5:** Risk perception is positively mediating the relationship of loss aversion bias with the investor's decision.

### THEORETICAL FRAMEWORK

<table>
<thead>
<tr>
<th>Overconfidence Bias</th>
<th>H1</th>
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</thead>
<tbody>
<tr>
<td>Loss Aversion Bias</td>
<td>H2</td>
</tr>
<tr>
<td>Risk Perception</td>
<td>H3</td>
</tr>
<tr>
<td>Decision Making</td>
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</table>

### METHODOLOGY

Data was collected using questionnaires through convenience sampling. The sample consisted of investors of Islamabad and Lahore stock exchange and brokerage houses. The questionnaire explaining the purpose of the study assured respondents of strict confidentiality and that participation in the study was voluntary. 250 questionnaires were distributed of which 170 were returned, making the response rate approximately 68 percent. Scoring for each construct was done using a five-point likert scale with 5 representing “very much” agreement/satisfaction and 1 representing “very much” disagreement/dissatisfaction with each item. Linear Regression & correlation analysis was used for statistical analysis.

### MEASURES

#### OVERCONFIDENCE BIAS

Overconfidence bias was measured with 10 items scale developed by Simon, Houghton, and Aquino [44]. A sample item was ‘I prefer complex to simple problems’. Cronbach’s Alpha of the scale was 0.820.

#### LOSS AVERSION BIAS

4 items scale developed by Hassan, Khalid, and Habib (2014) was used to measure loss aversion bias. A sample item was ‘If I lost Rs. 1000 in a game then I will stop playing that game.’ Cronbach’s alpha value of scale was 0.758.

#### INVESTMENT DECISION MAKING

For measurement of investment decision making the 7 item scale was used adopted from Hiran and Loibl (2008). Sample item was ‘The uncertainty of whether the market will rise or fall keeps me from buying stocks’. Value of Cronbach’s alpha was 0.874.

#### RISK PERCEPTION

14 item scale of Simon, Houghton, and Aquino [44] was used for risk perception measurement. Sample item of risk perception is ‘It is always easy to determine the credibility of the stock market’ and the Cronbach’s alpha value was 0.899.
Table 1. One Way ANOVA

<table>
<thead>
<tr>
<th>Control Variables</th>
<th>Risk perception</th>
<th>Investment Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F Sig. (p)</td>
<td>F Sig. (p)</td>
</tr>
<tr>
<td>Gender</td>
<td>.124 .725</td>
<td>.351 .554</td>
</tr>
<tr>
<td>Age</td>
<td>1.213 .307</td>
<td>1.318 .271</td>
</tr>
<tr>
<td>Qualification</td>
<td>3.747 .012</td>
<td>4.929 .003</td>
</tr>
<tr>
<td>Experience</td>
<td>2.208 .089</td>
<td>.478 .698</td>
</tr>
</tbody>
</table>

RESULTS

Table 1 of one way ANOVA shows the impact of control variables on Mediator Risk perception and independent variable investment decision with f and significance value. Results of table show that from control variables only qualification has a significant impact on risk perception (sig=0.12) and investment decision (sig= 0.003), so it needs to be controlled while running regression.

Table 2. Mean, Standard Deviation, Correlation and Reliabilities

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>S.D</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overconfidence</td>
<td>3.96</td>
<td>0.57</td>
<td>-0.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Loss Aversion</td>
<td>3.504</td>
<td>0.966</td>
<td>.469**</td>
<td>-0.758</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Investment decision</td>
<td>3.642</td>
<td>0.907</td>
<td>.328**</td>
<td>.180*</td>
<td>-0.874</td>
<td></td>
</tr>
<tr>
<td>4. Risk Perception</td>
<td>3.6</td>
<td>0.812</td>
<td>0.109</td>
<td>.255**</td>
<td>.175*</td>
<td>-0.899</td>
</tr>
</tbody>
</table>

**.Correlation is significant at the 0.01 level (2-tailed), *.Correlation is significant at the 0.05 level (2-tailed).
N=160; *p < .05, ** p < .01, S.D for Standard Deviation

The results in Table 2 shows that overconfidence has a significant positive influence on investment decision (r = .328**) hypothesis 1. Loss Aversion has a positive association with investment decision (r = .180*) hypothesis 2. Risk perception also has a significant positive association with investment decision (r=.175*), hypothesis 3.

Results of Table 2 show that overconfidence has the largest mean (3.96) and loss aversion has the smallest mean in variables of study (3.50). Results also show that among the standard deviations of variables, loss aversion has the largest standard deviation (.966) and overconfidence has the smallest standard deviation (.570).

Table 3. Mediated Regression Analysis

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Risk Perception</th>
<th>Investment Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>R²</td>
</tr>
<tr>
<td>Main Effect: OC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control variable</td>
<td>.63</td>
<td>0.029</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCS</td>
<td>.140ns</td>
<td>0.072</td>
</tr>
<tr>
<td>Main Effect: LA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Variable</td>
<td>0.063</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA</td>
<td>.201**</td>
<td>0.12</td>
</tr>
<tr>
<td>Mediator: RP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RP</td>
<td>.116ns</td>
<td>0.039</td>
</tr>
</tbody>
</table>

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To examine whether risk perception mediates the relationship between overconfidence and investment decision, loss aversion and investment decision, mediation regression analysis was used (Table 3). In the first step, control variables were entered, in the second step, overconfidence was regressed on investment decision while controlling the effect of loss aversion, giving significant results ($\beta=.535^{**}$, $p<.01$), in the next step, loss aversion was regressed on investment decision while controlling overconfidence, loss aversion contributed ($\beta=.179$, insignificant) towards investment decision as shown in Table 3. By introducing risk perception as a mediator, overconfidence reduces the contribution ($\beta=.140$, insignificant) as shown in Table 3. Loss aversion has a significant positive impact on risk perception ($\beta=-.201$, $p<.01$). It shows full support of mediation effect between loss aversion and investment decision.

**DISCUSSION**

The first hypothesis of this study i.e. overconfidence bias is positively associated with the investor’s decision, is accepted. The study shows overconfidence leads to reliable investment decisions. Past research shows that overconfident investors invest more because they get more returns in past (Zaiane, 2013). Soll and Klayman [46] investigated that appropriate confidence is important for making risky decisions. So our result is consistent with past researchers.

The second hypothesis of the study i.e. loss aversion bias is negatively associated with the investor’s decision, is rejected. The study explains that loss averse investors avoid in investment because they want to save from loss. Past research shows that investors with more loss averse attitudes will take less risky investment decisions and this theory implies that the leaning of people is stronger towards avoiding losses than towards acquiring increments (Zamir, & Ritov, 2012).

The third hypothesis that risk perception is positively associated with investment decision, is rejected. The fourth hypothesis of the study i.e. risk perception mediates positively between overconfidence bias and investment decision, is rejected. The study shows that when overconfidence is more about the abilities of investment, they invest more. Past research shows that overconfidence and risk perception strongly influence the risk-taking attitude and behavior of professionals [11], but risk perception does not mediate between them.

The fifth hypothesis of the study, i.e. risk perception mediates the relationship between loss aversion and investment decision is also rejected. The study shows that when investors are loss averse then they invest less. Malmendier and Negel [30] proposed that bad and worse risk experiences can decrease investors' willingness to take risks by reducing their risk tolerance.

According to Bern and Keynee, the three conditions for mediation must be fulfilled which are:

1) Relationship of IV with DV.
2) IV with Mediator.
3) Mediator with DV.

But in this research the mediator risk perception is not mediating the relationship. Only first hypothesis is accepted and other two are rejected.

**IMPLICATIONS**

Managers should take appropriate and reliable decisions relating to investment. These decisions must relate to current situation of market and economic condition of the country. For making the organization more profitable, the managers need to compare their performance with other organizations. In this way, they bring suitable,
affective and reliable changes for their organization and also make the economic condition of the country better. Sometimes managers show overconfident attitude towards their investment decisions, and this attitude creates the situation of biasness. They believe in their abilities and invest without taking precautionary measures. But the actual situation is contradicting this because their past abilities are not enough for present condition of running the organization in the best way. Past returns lead investors to become more confident for future (Sheikh & Riaz, 2013). Managers should give consideration at ratification phase to guarantee that experience is entrapped in a feedback loop to avoid and save mistakes in upcoming and in future decisions (Smith, Kisamore, Stone & Jawahar, 2010). On the other hand, some investors and managers are risk averse; at this stage people avoid losses to acquire gains. So managers should also be loss averse to save themselves from big losses. Risk perception is also an important factor for managers, because risk can be used to characterize an overall decision and compare it with other alternatives (Lan & Ozario, 2014).

LIMITATIONS AND FUTURE DIRECTIONS

The sample size of the study is not sufficient for more efficient and reliable findings and the data is also taken from some regions and investors. The questionnaire was distributed for collection of data in which common bias was involved and further studies need to avoid these limitations. Future researchers should also expand their research work for risk perception by adding additional outcomes variables into their studies like risk aversion and risk tolerance and show the separate impact on investment decision in one framework. The researcher should explore additional reaction of behavior of the investors to expand their studies. This study can be done on other sectors also because in this study focus was only on brokerage houses and stock exchange of Islamabad and Lahore but we can also collect data from other brokerage houses and stock exchanges like Karachi stock exchange and brokerage houses. Mix method for collecting data can be used that is interviews etc. Future researchers should also expand their sample size. In this way data would be reliable and final results will be according to our study.

REFERENCES


Appendix 1

OVERCONFIDENCE
1. Thinking hard and for a long time about something gives me little satisfaction.
2. I trust my initial feelings about people.
3. I prefer to do something that challenges my thinking abilities rather than something that requires little thought.
4. I believe in trusting my hunches.
5. I prefer complex to simple problems.
6. I try to avoid situations that require thinking in depth about something.
7. When it comes to trusting people, I can usually rely on my ‘gut feelings’.
8. My initial impressions of people are almost always right.
9. I don’t like to have to do a lot of thinking.
10. I can usually feel well when a person is right or wrong even if I can’t explain how I know.

LOSS AVERSION
1. I am risk averse.
2. If I have Rs.500,000 excess, I would prefer to invest in risky alternative.
3. If I lost Rs. 1000 in a game then I will stop playing that game.
4. If I inherited Rs. 2000,000; I would prefer to choose less risky investment option.

INVESTMENT DECISION
1. Money is the most important goal of my life.
2. It is more satisfying to save than to invest money.
3. Stock markets are unpredictable that’s why I would never invest in stocks.
4. I would invest a larger sum of money in stock.
5. The uncertainty of whether the market will rise or fall keeps me from buying stocks.
6. I prefer to save money because I am never sure when things will collapse and I will need money.
7. I budget my money very well.

RISK PERCEPTION
1. I usually have a fear to invest in stocks that have a sure gain.
2. I am hopeful when undertaking investment in stocks that have exhibited a sure loss.
3. I am cautious about stocks which show sudden changes in price or trading activity.
4. I usually have worry investing in stocks that have had a past negative performance in trading.
5. My investment in stocks is largely based on investment knowledge, experiences and education.
6. I am always attracted to investing in stocks.
7. I usually consider the credibility of brokerage firms that provide the financial services.
8. I can easily ascertain the expertise of the brokers offering service.
9. It is always easy to determine the credibility of the stock market.
10. I can easily tell the reputation of brokerage firms staffing service.
11. I feel that the idea of participating in a buy/ sell on the stock market is appealing.
12. I am usually at ease with the stock trading system on the KSE.
13. I am often not afraid to invest in stocks that have shown a past positive performance in trading.
14. I feel regret of a drop in the price of a stock I have purchased.