

# **THE EFFECT OF PSYCHOLOGICAL FACTORS ON INVESTORS' DECISION MAKING IN COLOMBO STOCK EXCHANGE**

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## **ABSTRACT**

In an economy, stock market coming under capital market is much important. Hence, investing behavior of individuals is very important to be understood, especially organizations in capital market to make their own decisions. In traditional finance, risk and return is the main reason of investors, which is not highly important under the behavioral finance. Therefore, psychological factors are vital to be discussed with the reason of that many investors are not rational. In Sri Lankan context, it is vital to understand effect of psychological factors on individual investor decision making in Sri Lankan stock exchange. However, existing body of literature revealed that, findings of various studies in various countries are different from one to another. This study focuses on understanding the effect of psychological factors on investing decision making of individual investors in Sri Lanka. Population of this study is all individual investors in Sri Lanka. A sample of 231 investors was selected using convenient sampling method. A structured questionnaire was used in data collection. Data analysis was performed with regression analysis. The study found that there is a significant impact of overconfidence biasness, representativeness and availability on decision making of individual investors

in Colombo Stock Exchange. Therefore, psychological factors are highly important for individual investors in their decision making.

**Keywords:** *Colombo Stock Exchange, Investors' Decision, Psychological Factors*

## **1. INTRODUCTION**

### **Background of the Study**

Stock markets coming under capital market play a vital role in every economy. Considering different objectives, various investors are investing on stock market. Wealth maximization is one of important objectives among investors. Therefore, today, investing is important for individuals and business due to expecting of return over it. Risk and return are parallel with the word “investment”. Investors always attempt to reduce the risk and gain high return. According to traditional financial views, mostly, investors attempt to reduce risk by increasing the number of investment instruments without considering the relations between the yields of investment instruments (Demirtaş & Gungor, 2004). Risk and return are the important factors that investors are considering to have optimum investments in this context. Markowitz (1952) argued that by increasing portfolio instruments, no investors may gain return. Markowitz understood that need to have unrelated (reverse correlated portfolio instruments) portfolio instrument to have a reduction of riskiness of the portfolio. In this statement he understood and expressed that overall riskiness of portfolio can be reduced. Markowitz identified portfolio relationship is the important rather than increasing portfolio securities with his modern portfolio theory.

Mostly, investor's behavior can be effected by some other factors, rather than what traditional finance theories explained. According to Kahneman and Tversky (1974), investors concentrate loss and gain in different perspectives. But need to understand perceived risk rather than expected risk of investors (Kahneman & Tversky, 1974). Most people are not rational and do not concern much about rational thinking. In this context psychological factors are important to understand investor behavior in an accurate way.

After financial liberalization in Sri Lanka (1977), new financial institutions were introduced. With establishment of Colombo Stock Exchange (CSE), Stock market in Sri Lanka made a big step towards the development itself. In this way Securities Exchange Commission is also play a vital role with the help of government (Jahfer & Inoue, 2014). There is a significant parallel relationship between economic growth and stock market capitalization and turnover (Jahfer & Inoue, 2014). Therefore, investing in stock market is critical to achieve macroeconomics objectives such as growth.

### **Statement of problem**

According to traditional financial theories, generally, investors are behaving rationally. But, modern financial theories in behavioral finance, explain that people may behave irrational as well. According to various research, investors consider psychological factors frequently in investing decision making (Bakar & Yi, 2015). According to Lee & Wang (2007), macroeconomics factors and fundamental factors were important in determine of investors behavior in Taiwan Stock Market. Accounting information of stocks are important to change investors' behavior (Rehman & Arif, 2015). Therefore, various studies found that investors' behavior is affected by various factors. That finding

create a contradiction among literature leaving a question whether psychological factors effect on investors' behavior. It is hard to find such literature in Sri Lankan context although we find literature that's comes from other countries. Therefore, it is vital to find whether there is an impact on investors' behavior by psychological factors.

## **2. OBJECTIVE OF THE STUDY**

### **Primary objective**

- To identify the effect of psychological factors on individual's investing decision making

### **Secondary objectives**

- To identify how overconfidence bias effect on individual investing decision making behavior.
- To identify how representativeness bias effect on investing decision making behavior.
- To identify availability bias that may effect on investing decision making behavior.

## **3. LITERATURE REVIEW**

Business activities depend on their financial availability. Therefore, exploring way to finance business activities is essential and prerequisite. Finance can be considered as heart of the business in this way. Finance is important discipline and considered as art and sciences of managing money including financial

services and instruments (Khan & Jain, 2017). According to Oxford dictionary, the word 'finance' connotes 'management of money'. Webster's Ninth New Collegiate Dictionary defines finance as "the Science on study of the management of funds' and the management of fund as the system that includes the circulation of money, the granting of credit, the making of investments, and the provision of banking facilities.

Investment is important for many reasons. In the situation when consumption is higher than income, people need to explore new method of earning. In some case, people save money in the period of that the income level is higher than consumption expenditure and retrieve saved money in case of emergency situation or for the period of consumption where expenditure is higher than income level. Therefore, people invest their extra money in various ways. Hence formal definition for the word "Investment" can be extracted as current commitment of dollars for a period of time in order to derive future payments that will compensate the investor for (1) the time the funds are committed, (2) the expected rate of inflation, and (3) the uncertainty of the future payments. The "investor" can be an individual, a government, a pension fund, or a corporation (Franke & Brwon, 2009).

However, psychologists understood that human beings do not behave as rationally as economists suppose. Babajide and Adetiloye (2012) revealed that investors are not always as rational as they are represented to be. These irregularities can be explained by behavioral finance. Behavioral finance considers how various psychological traits effect on individuals or groups act as investors, analysts and portfolio managers (Bakar, 2015). It tries to understand how sentiments and perceptive errors influence behaviours of individual investors (Kengatharan, 2014).

However, people invest their money with the objective of having return on it as other income source rather than main income source. Some few of wealthier people may be there who invest their money with the hope of main income stream. In this way, investment decision of people could be effected by many factors. Under heuristic biases, Overconfidence, Representativeness, Availability and Herding are some of psychological factors that effect investors decision making.

Overconfidence is an important bias that may effect person's decision making. When people overestimate their knowledge and skills, it is a reflection of overconfidence (Debondt & Thaler, 1995; Hvide, 2002). According to Chernoff(2010) "too many people overvalue what they are not and undervalue what they are". Such people suffer from overconfidence bias. According to Moore and Healy (2008), three attributes indicate individuals who are suffering from overconfidence bias such as overestimation, over placement and over precision. The study conducted by Bakar and Yi (2016) found that overconfidence bias has a significant impact on investors' decision-making.

Representativeness bias is also coming under heuristic biases which is vital to effect on investing decision making of investors. The representativeness heuristic was first described by psychologists Tversky and Kahneman during the 1970s. Representativeness is a cognitive heuristic bias which can be defined as a mental shortcut that involves decisions being made according to mental stereotypes (Shefrin, 2005). Due to representativeness, people give more value to recent experience and ignore the average long-term rate (Ritter, 2003). Most investors are guided by past experience they had. Irshad, Badshah and Hakam (2016) also found a positive relationship between representativeness bias and investment decisions. Ikram (2016) found that representativeness bias positively affected the decisions of individual

investors trading on the Islamabad stock exchange, meaning that individual investors' returns increased due to representativeness bias.

Availability is a cognitive heuristic bias occurs when people rely too much on easily available information in their judgments or forecasting (Ngoc, 2014). Many studies have been conducted on availability bias and investment decisions; some studies found a positive relationship between availability bias and investment decisions. Ikram (2016). Khan (2015) also found that availability bias has a significant impact on the investment decisions of individual investors.

#### **4. RESEARCH DESIGN AND METHODOLOGY**

##### **Population**

Colombo Stock Exchange is important organization in industrial environment in Sri Lanka. It plays one of the major roles in capital market which is coming under financial market in the country. Many organizations are enrolled with Colombo Stock Exchange selling equities at currently with the expectation of increasing equity capital (CSE, 2018). Many investors can be found all over the country who invest in Colombo Stock Exchange. Researcher focused all individual investors within the country who invest in Colombo Stock Exchange. Many studies related to stock exchange, also have taken all the investors within the country as population. Study done by Ambrose and Vincent in 2014, focused all investors in New York Stock Exchange as the population. Considering that, researcher also identified all investors in Colombo stock exchange as the population for this study.

## **Sampling**

In order to identify the effect of psychological factors on individual investors' decision making, proper sample is needed. Khan and Afrin (2015) used convenient sampling method in their study related to Factors Influencing Investors' Decisions in Stock Market Investment in Bangladesh. Hussein Tamimi and Kalli (2009) used convenient sampling methods to identify the financial literacy and investment decisions of United Arab Emirates (UAE) investors. Therefore, study used convenience sampling method to identify the proper sample that represent the population of individual investors in Sri Lanka. In this study, 231 individual investors were taken as sample in Colombo stock exchange.

## **Data collection**

Primary data were collected for testing the hypotheses. Through literature review, researchers identified that structured questionnaire is the best tool to collect data regarding factors effect on individual investors' decision making. Waseem and Kashif used questionnaire as the research instrument regard with data collection in their study on "Investment Behavior and Stock Preference of an Individual Investor: Evidence from Karachi Stock Exchange" in 2015. Therefore, structured questionnaire was used to collect data. According to the study, researcher identified few psychological factors that has an effect on investing decision making. These factors were identified as independent variables and researcher assigned few questions to measure it. Therefore, five-point Likert scale method was used to measure it (1 – Strongly disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree). Structured questionnaire was consisted with few parts. First part was consisted with demographic factors regarding each investor. Therefore, age, gender, income level and

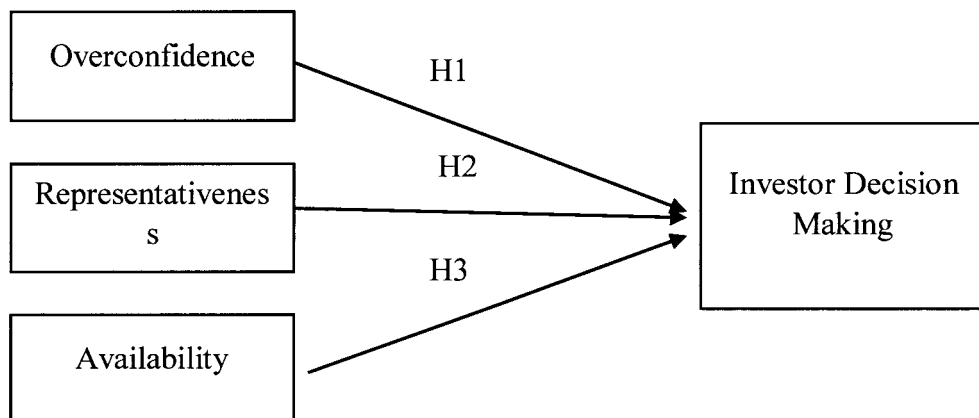


educational level were taken as basic question included in this first part. Secondly, relevant questions have been gathered to represent all independent variables in the model. Finally, researcher used few questions related to variables. Final part of the questionnaire was allocated for identifying of individual investor decision in Colombo stock exchange.

### Conceptual framework

Understanding factors effect on individual investors decision making is highly important in term of increasing capital in mainly in listed companies. In this way, stock exchange and brokerage organizations need to understand investors' decision-making on their investment. Study identified few factors highly effect on investors behavior through available literature.

**Figure 4-1 Conceptual Framework**



### Hypotheses

Overconfidence bias is a fundamental bias in behavioral finance. It assumed that individuals are not rational as most theories postulate. Mostly, individual decisions are taken with some level of certain confident levels. Confident can

be defined as the degree of certainty that one holds his accuracy of his or her mind (Lintz, 2016). According to Chernoff, (2010) “too many people overvalue what they are not and undervalue what they are”; such people suffer from overconfidence bias. The study conducted by Bakar and Yi (2016) found that overconfidence bias has a significant impact on investors’ decision-making.

***H<sub>1</sub>: There is a significant effect of Overconfidence on individual investor’s decision making of investors in Colombo stock exchange.***

Due to representativeness, people give more value to recent experience and ignore the average long-term rate (Ritter, 2003). Most investors are guided by past experience they had. Irshad, Badshah and Hakam (2016) also found a positive relationship between representativeness bias and investment decisions. Ikram (2016) found that representativeness bias positively affected the decisions of individual investors trading on the Islamabad stock exchange, meaning that individual investors’ returns increased due to representativeness bias.

***H<sub>2</sub>: There is a significant effect of representativeness on individual investor’s decision making of investors in Colombo stock exchange.***

Many studies have been conducted on availability bias and investment decisions. Some studies found a positive relationship between availability bias and investment decisions. With information that they are able to access or available, investment decisions improved. Ikram (2016). Khan (2015) also found that availability bias has a significant impact on the investment decisions of individual investors.

***H3: There is a significant effect of availability on individual investor's decision making of investors in Colombo stock exchange.***

### **Analysis**

To understand the effect of psychological factors on individual investor's decisions, need to have a proper analytical method. Descriptive and inferential statistic are used to analyse the data to understand the effect of factors on individual investors' decision making. Large body of literature revealed that various analytical tools and model have been used in various studies to extract findings. Factor analysis, regression analysis, correlation analysis and many more are important tools and model that were used in studies. Ahmad & Shah (2017) explain finding under the article of Heuristic biases in investment decision-making and perceived market efficiency at the Pakistan Stock Exchange with correlation analysis, regression analysis and descriptive analysis. Aisha Farooq (2015) explained findings of the article of Factors Affecting Investment Decision Making with correlation and descriptive analysis. In this study, researcher need to focus on psychological factors effect on individual decision making and highly attention on contribution of all factors selected in the study. Therefore, this study used regression model to understand the effect of selected factors on decision making of individual investors. The study identified one dependent variable and three independent variables related to psychological factors that effect on individual decision making. According to the study and available literature review, researcher developed a regression model as below.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

**WHERE**

$Y$  : *Dependent variable (Individual investors' decision making)*

$\alpha$  : *Intercept (Intercept of the model)*

**SENTIMENT FACTORS**

$B1$  : *Coefficient of variable (Overconfidence)*

$X1$  : *Variable (Overconfidence)*

$B2$  : *Coefficient of variable (representativeness)*

$X2$  : *Variable (Representativeness)*

$B3$  : *Coefficient of variable (availability)*

$X3$  : *Variable (Availability)*

**OTHER**

$e$  : *Error term*

The study used regression model with the help of SPSS 20.0 version to identify the effect of all selected factors that effect on individual investors' decision making in Colombo stock exchange.

## **5. RESULT AND DISCUSSION**

Colombo stock exchange is important organization in industrial environment in Sri Lanka Under the capital market, Colombo stock exchange plays major role in the country. With the expectation of raising equity, many companies are enrolled currently (CSE, 2018). In this study, all individual investors who

invest in Colombo Stock Exchange, were focused and attempted to understand factors that influence on investment decision making of individual investors. Descriptive and inferential statistics were used. In this way, study was able to collect data from 231 sample units out of individual investors investing in Colombo Stock Exchange. With the aid of structured questionnaire, study attempted to understand demographic factors of all individual investors in Colombo Stock Exchange. All individual investors were male (100%) and no female individual investors were found during data collection. Situation was changed according to information derived under the study of “Financial literacy and investment decisions of United Arab Emirates (UAE) investors” and found that female individual investors were significant proportion out of the sample derived (Female: 121, 41.7%; Male: 169, 58.3%) which was different from Sri Lankan context (Hussein and Al Anood, 2009). Individual investors are varied from young to adults (Old person) and belonging to different age groups. According to available literature, study identified different age groups between 18 and above. According to available data collected, only few different age groups were available from 18 to 57. Highest number of individual investors were reported in 34 – 41 (95, 41.13%) age group while second place were reported under 26 – 33 (59, 25.54%) age group. Therefore, large number of individual investors were above 26 in age. It was reported that 42 – 49 (40, 17.32%) was third largest individual investors by age groups. In the context of stock market in United Arab Emirates, it was reported that most individual investors were in 26 – 35 in age (163, 56.2%) (Hussein & Anood, 2009). According to above information, young individual investors were important in United Arab Emirates context but it was different from Sri Lankan context. Out of whole sample, 197 (85.28%) individual investors were married while rest of others were not married (34, 14.72%).

Out of all individual investors in the sample, 189 (81.82%) were from urban living areas and rest were from rural living areas (42, 18.18%). There were large number of individual investors who were investing in Colombo Stock Exchange having 2 – 5 years of investing experiences (126, 54.55%). It was also reported that individual investors who were having 0.5 – 2 yeas of investing experiences were 74 (32.03%). Therefore, it can be seen that most individual investors were having more than two years of experiences in investing in Colombo Stock Exchange. According to data collected, most individual investors investing in Colombo Stock Exchange were in bachelor level (144, 62.34%) while 80 (34.63%) were in master level. Only 3 (1.30%) individual investors were having PhD, but no individual investors who were bellow Ordinary Level (O/L) or Advance Level (A/L) were found. Therefore, all individual investors were well educated according to the sample data. According to the study done related to stock market in United Arab Emirates revealed that most individual investors were in bachelor level or having equalant degree indicating 132 (46.5%) of whole sample collected (Hussein and Al Anood, 2009). Also, few individual investors were in diploma and equalant qualifications (77, 27.1%) that indicates differences between Sri Lankan context and United Arab Emirates. A study done to identify Environmental scanning and investment decision quality, was identified that most investors in the sample were mostly Bachelor's holders (Maheran & Jantan, 2009). Among individual investors in the sample investing in Colombo Stock Exchange, most investors were having LKR 60,000 - 75,000 (54, 23.38%) income range. There were 38 (16.45%) individual investors identified as having LKR 75,000 - 90,000 income range. Therefore, it can be identified that most individual investors were having LKR 60,000 – 90,000 (Moderate income level) income range considering rage between below

15,000 and above 120,000. According to the study done in stock market in United Arab Emirates it is revealed that most investors experienced moderate income level considering income range between AED 5,000 and above 60,000 (Hussein and Al Anood, 2009). Characteristics of individual investors are presented by the table 4-1 (Table 4 -1).

**Table 4-1 Demographic Characteristics of individual investors**

<b>Characteristics</b>	<b>Number</b>	<b>Percentage</b>
<b><i>Age (Years)</i></b>		
<i>18 - 25</i>	<i>34</i>	<i>14.72</i>
<i>26 - 33</i>	<i>59</i>	<i>25.54</i>
<i>34 - 41</i>	<i>95</i>	<i>41.13</i>
<i>42 - 49</i>	<i>40</i>	<i>17.32</i>
<i>50 - 57</i>	<i>3</i>	<i>1.30</i>
<b><i>Gender</i></b>		
<i>Male</i>	<i>231</i>	<i>100.00</i>
<b><i>Marital Status</i></b>		
<i>Married</i>	<i>197</i>	<i>85.28</i>

<i>Unmarried</i>	<i>34</i>	<i>14.72</i>
<b><i>Living Area Status</i></b>		
<i>Rural</i>	<i>42</i>	<i>18.18</i>
<i>Urban</i>	<i>189</i>	<i>81.82</i>
<b><i>Investment Experience (Years)</i></b>		
<i>Below 0.5</i>	<i>15</i>	<i>6.49</i>
<i>Between 0.5 - 2</i>	<i>74</i>	<i>32.03</i>
<i>Between 2 - 5</i>	<i>126</i>	<i>54.55</i>
<i>Between 5 - 8</i>	<i>10</i>	<i>4.33</i>
<i>Between 8 - 11</i>	<i>6</i>	<i>2.60</i>
<b><i>Educational Background</i></b>		
<i>Bachelors Level</i>	<i>144</i>	<i>62.34</i>
<i>Masters Level</i>	<i>80</i>	<i>34.63</i>
<i>PhD Level</i>	<i>7</i>	<i>3.03</i>



<i>Income Level (LKR)</i>		
<i>Below 15,000</i>	<i>35</i>	<i>15.15</i>
<i>15,000 - 30,000</i>	<i>14</i>	<i>6.06</i>
<i>30,000 - 45,000</i>	<i>17</i>	<i>7.36</i>
<i>45,000 - 60,000</i>	<i>18</i>	<i>7.79</i>
<i>60,000 - 75,000</i>	<i>54</i>	<i>23.38</i>
<i>75,000 - 90,000</i>	<i>38</i>	<i>16.45</i>
<i>90,000 - 105,000</i>	<i>32</i>	<i>13.85</i>
<i>105,000 - 120,000</i>	<i>15</i>	<i>6.49</i>
<i>Above 120,000</i>	<i>8</i>	<i>3.46</i>

Various studies argue about impact of educational background of individual investors on investment experience on Stock Market. It was found that investors with academic education, trade more actively on the stock market (Liivamagi, 2016). In addition, the study found that investors holding a degree in natural sciences trade more actively on the stock market compared to investors with no such a degree (Liivamagi, 2016). According to demographic data available, most individual investors were well educated (Refer table 4-1). It was seen that all investors in the sample were above bachelor level. Highest investment experience in bachelor level and Master level was reported as Between 2 – 5 years (74, 32.03% and 50, 21.65% respectively). Please refer table 4-2 (Table 4-2: Investment Experience and Educational Level).

**Table 4-2 Investment Experience and Educational Level**

<b>Item (Years)</b>	<b>Number</b>	<b>Percentage</b>
<b><i>Bachelors Level</i></b>	<b><i>144</i></b>	<b><i>62.34</i></b>
<i>Below 0.5</i>	<i>15</i>	<i>6.49</i>
<i>Between 0.5 - 2</i>	<i>52</i>	<i>22.51</i>
<i>Between 2 - 5</i>	<i>74</i>	<i>32.03</i>
<i>Between 8 - 11</i>	<i>3</i>	<i>1.30</i>
<b><i>Masters Level</i></b>	<b><i>80</i></b>	<b><i>34.63</i></b>
<i>Between 0.5 - 2</i>	<i>22</i>	<i>9.52</i>
<i>Between 2 - 5</i>	<i>50</i>	<i>21.65</i>
<i>Between 5 - 8</i>	<i>5</i>	<i>2.16</i>
<i>Between 8 - 11</i>	<i>3</i>	<i>1.30</i>
<b><i>PhD Level</i></b>	<b><i>7</i></b>	<b><i>3.03</i></b>
<i>Between 2 - 5</i>	<i>2</i>	<i>0.87</i>
<i>Between 5 - 8</i>	<i>5</i>	<i>2.16</i>

Many argue that rural people are somewhat traditional compare to the urban people considering access to information available in different fields. In Stock Market context, fewer individual investors can also be identified among whole investors. According to Indian Express (Media company in India), it was reported that not even 1 per cent of rural households in India were investors in

stock market (Indian Express, 2018). Therefore, it can be seen that many rural investors are not paying attention on investing in Stock Market due to many reasons. According to the data of the study, it was identified that most individual investors having huge investment experience were coming under urban investors indicating such a similar situation in India. It was reported that 189 (81.82%) out of whole sample were from urban living areas and only 42 (18.18%) were from rural areas. Comparing to living status and investment experience of individual investors, it was identified that 114 (49.35%) individual investors who are living in urban areas, were having more than 2 years of experience of investing in Colombo Stock Exchange indicating 98 (42.42%) of higher number of investors having between 2 – 5 years of investing experience. Among rural individual investors, only 28 (12.12%) investors were identified as the investors having more than 2 years of investing experience in Colombo Stock Exchange. It was seen to be that highest investment experience investors were mostly from urban living areas according to the data collected (Refer Table 4 3).

**Table 4-3 Investment Experience and Urban and Rural Status**

<b>Item (Years)</b>	<b>Number</b>	<b>Percentage</b>
<b><i>Rural</i></b>	<b><i>42</i></b>	<b><i>18.18</i></b>
<i>Below 0.5</i>	<i>5</i>	<i>2.16</i>
<i>Between 0.5 - 2</i>	<i>9</i>	<i>3.90</i>
<i>Between 2 - 5</i>	<i>28</i>	<i>12.12</i>
<b><i>Urban</i></b>	<b><i>189</i></b>	<b><i>81.82</i></b>
<i>Below 0.5</i>	<i>10</i>	<i>4.33</i>

<i>Between 0.5 - 2</i>	<i>65</i>	<i>28.14</i>
<i>Between 2 - 5</i>	<i>98</i>	<i>42.42</i>
<i>Between 5 - 8</i>	<i>10</i>	<i>4.33</i>
<i>Between 8 - 11</i>	<i>6</i>	<i>2.60</i>

*Source: Researcher's data base (2018)*

Psychological factors are vital in making decision in the field of investment particularly in Stock market. In order to identify the psychological factors, effect on individual investors in Colombo Stock Exchange, regression analysis was developed through literature review. Large number of studies in which regression analysis was used to analysis the data were found. A study done to identify Environmental scanning and investment decision quality, also employed the regression model to analysis data collected (Maهران & Muhamad, 2009). Therefore, this study also employed regression analysis in order to identify the relationship between various factors and investment decision by the individual investors in Colombo Stock Exchange.

The study identified three independent variable and one dependent variable. Stock Price Overconfidence, Representativeness and Availability are considered as independent variable while Individual investors' decision making as dependent variable. Few questions in Likert type scale were added in order to measure each and every variable considering standardized questionnaire referred during literature review. The study conducted reliability test to test internal consistency whether to understand all questions that were

added in questionnaire to measure variables. Cronbach's Alpha was used to understand the internal consistency of the each and every variable. According to the reliability table (Table 4 -4), it was revealed that all values of each and every variable were above 70 percent. Therefore, all variables were having good internal consistency and perfect for measurement of all variables.

**Table 4-4 Reliability test (Cronbach's Alpha) – SPSS 20.0**

<b>Variables</b>	<b>Cronbach's Alpha</b>
<i>Overconfidence</i>	<i>0.811</i>
<i>Representativeness</i>	<i>0.812</i>
<i>Availability</i>	<i>0.829</i>
<i>Individual investors' decision making</i>	<i>0.817</i>

Multicollinearity is a major issue in regression model. If this assumption is violated, then the model in hand is no more reliable and also is not acceptable in estimating the population parameters (Daoud, 2009). The term multicollinearity refers to a situation in which there is an exact (or nearly exact) linear relation among two or more of the input variables (Hawking, 1983). Therefore, multicollinearity appears when two or more independent variables in the regression model are correlated (Daoud, 2009). Therefore, study tested multicollinearity of the model to understand whether there was correlated among independent variables.

Practical experience indicates that if any of the VIFs exceeds 10, it is an indication that the associated regression coefficients are poorly estimated because of multicollinearity (Bhar, 1983). Tolerance is also another indicator that is used to identify multicollinearity of independent variables. If tolerance values less than 0.10, then it indicates collinearity among independent variables (Daoud, 2009). According to the result of SPSS regarding multicollinearity test, it can be identified that all tolerance values are greater than 0.10 and all VIF values are less than 10. Therefore, there is not multicollinearity issue in the model (Refer Table 4 -5).

**Table 4-5 Multicollinearity test Result of the model – SPSS 20.0**

<b>Model</b>		<b>Collinearity Statistics</b>	
		<b>Tolerance</b>	<b>VIF</b>
1	<i>(Constant)</i>		
	<i>Overconfidence</i>	<i>.897</i>	<i>1.115</i>
	<i>Representativeness</i>	<i>.663</i>	<i>1.509</i>
	<i>Availability</i>	<i>.674</i>	<i>1.484</i>
<i>a. Dependent Variable: Investors decision making</i>			

The study developed hypothesis accordance with literature available. This study used regression analysis to measure the impact of independent variable on dependent variables. Overall model was statically significant under the F test indication model was good for future predictions (Refer Table 4- 6).

**Table 4-6 Model Summary and ANOVA Table in SPSS 20.0**

<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
.731	.534	.528	.6903

	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>Regression</b>	124.129	3	41.397	86.864	.000 <sup>b</sup>
<b>Residual</b>	108.183	227	.477		
<b>Total</b>	232.374	230			

**Table 4-7 Regression Coefficient Table in SPSS 20.0**

	<b><math>\beta</math></b>	<b>t</b>	<b>Sig.</b>
<i>(Constant)</i>	.818	4.18	.000
<i>Overconfidence (<math>\beta_7</math>)</i>	.151	2.75	.006
<i>Representativeness (<math>\beta_8</math>)</i>	.517	10.15	.000
<i>Availability (<math>\beta_9</math>)</i>	.134	3.16	.002

The main objective of the study is to identify the effects of psychological factors on individual's investing decision making. To identify the effect, study run a regression model with the aid of SPSS 20.0.

Overconfidence bias is a fundamental bias in behavioral finance. It assumed that individuals are not rational as most theories postulate. Mostly, individual decisions are taken with some level of certain confident levels (Lintz, 2016). According to Chernoff, (2010) "too many people overvalue what they are not and undervalue what they are"; such people suffer from overconfidence bias. The study conducted by Bakar and Yi (2016) found that overconfidence bias has a significant impact on investors' decision-making. The study developed H1 hypothesis as that there is significant impact of overconfidence bias on individual investors decision making. Regression result shows that Beta coefficient was reported as  $\beta_1 = 0.151$ . Variable was significant under 5% significant level. Therefore, this can be used to predict the future individual investors decision making. Hence, most individual investor investing in Colombo Stock Exchange were highly concern about gains in their investments must be attributed to their competence as an investor. They concern even capable of identifying the low point of the market with their Overconfidence bias according to behavioral financial says.

Due to representativeness, people give more value to recent experience (Ritter, 2003). Most investors are guided by past experience they had. Irshad, Badshah and Hakam (2016) also found a positive relationship between representativeness bias and investment decisions. Ikram (2016) found that representativeness bias positively affected the decisions of individual investors trading on the Islamabad stock exchange, meaning that individual investors' returns increased due to representativeness bias. Therefore, the study developed H2 as that there is a significant impact of representativeness



on individual investors decision making in Colombo Stock Exchange. According to the regression result, it was reported as that there was a significant positive impact of representativeness on individual investors decision making in Colombo Stock Exchange. Beta value of this variable was reported as  $\beta_2 = 0.517$  and it was statically significant under 5% significant level. Therefore, this can be used to predict the future individual investors decision making. Hence, it can be identified that most investors much consider the past performance of the stocks before investing in it. It was revealed that most individual investors in Colombo Stock Exchange normally avoid investments in stocks that have a history of poor earnings. Due to that, most concern about trend analysis to make investment decisions.

According to literate review, many studies have been conducted on availability bias and investment decisions. Some studies can be seen which found a positive relationship between availability bias and investment decisions. Ikram (2016). Khan (2015) also found that availability bias has a significant impact on the investment decisions of individual investors. With information that they are able to access or available, investment decisions improved. Therefore, the study developed H3 hypothesis as that there is a significant impact of availability on individual investors decision making. According to the regression result, it was identified that beta value was  $\beta_3 = 0.134$  and statically significant at 5% significant level. Therefore, this can be used to predict the future individual investors decision making. In this way, many investors prefer to buy local stocks which is having more information than other stocks which is not having more information. They also give a more weight to easily available information.

## **6. CONCLUSION**

The study was focused on individual investors' behavior and its determinants under what behavioral finance discussed. Main objective of this study was to find the impact of psychological factors on individual investors' behavior. Mainly, three psychological factors were identified by literature review and found whether three psychological factors are important in determinant of individual investors' behavior. In this way, study found through the Regression result that there is a positive relationship between Overconfidence and investors decision making. Therefore, Overconfidence is highly concerned by individual investors. With representativeness, people give more value to recent experience. Most investors are guided by past experience they had. it was identified that there was a significant positive impact of representativeness on individual investors decision making in Colombo Stock Exchange. Hence, it can be identified that most investors much consider the past performance of the stocks before investing in it. The study found a positive relationship between availability bias and investment decisions. Therefore, many investors prefer to buy local stocks which is having more information than other stocks which is not having more information. In this way psychological factors are important in determinant of individual investors' behavior. Various organizations engaging in stock related activities specially Colombo Stock Exchange should pay attention to findings of this study. Creating and implementing new strategies need to increase individual investors' behavior in positive manner.