

# **EFFECT OF EMOTIONAL INTELLIGENCE AND FINANCIAL LITERACY ON INVESTMENT DECISION MAKING WITH A MEDIATING ROLE OF RISK PERCEPTION**

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## **ABSTRACT**

**This research paper examines the impact of emotional intelligence and financial literacy on investment decision with a mediating role of risk perception. The data is collected by using questionnaire, from a sample of 152 investors, from stock exchange and banks. The results support that to make adequate investment decisions, investors should be financially literate and have control on their emotions. However, risk perception of investors does not mediate this relationship.**

## **INTRODUCTION**

To be a better decision maker one should have control over his emotions. According to Hess and Bacigalupo (2011) while making worth full decisions, conflicts often arise, this can have a negative impact on some constituency, even after conflicts are resolved. As individual give more preference to the things with which they are emotionally attached (Leary, Reilly, & Brown, 2008). Decision makers who recognize and understand their emotions will effectively manage them in the process of decision making, and will be able to solve the conflicts arising in this process (Hess, & Bacigalupo, 2011).

Killan (2012) explains emotional intelligence as the ability to perceive and identify emotions in one self and to manage it to enhance well-being and the quality of one's professional and personal relationships. Emotional intelligence is the ability to recognize emotions and connect them with beliefs in order to understand emotions and to regulate them (Wang, & Wang, 2012).

Earlier it was considered that IQ factor is important for the enhancement of the person's ability to better manage things in a sophisticated way. The history of research on intelligence has proved that the success of an individual in his/her personal life and career depend not only on IQ but on other several factors as well. IQ is only the function of general intelligence (Derksen, Kramer, & katzko, 2002). According to Matthews (2012), EQ factor is more significant than IQ factor in human dealings as IQ factor will not be able to determine several aspects of intelligence. EQ is a multidimensional construct which is related to IQ but they both have dissimilar qualities (Riggio, & Reichard, 2008). Now the focus is more on EQ.

Keeping in view the concept of these researchers we can say that emotional intelligence enhance the personality of an individual and make him/her better at managing and arranging things which lead to building up an ability for accomplishing effective decision making. This ability of emotional intelligence not only enhances the processes of the decision making but also the outcome of the decision making. In an organization, decision maker who have self-awareness can make better decisions than other (Hess & Bacigalupo, 2011). Like in other domains emotional intelligence has significant importance in making financial and investment decisions as well.

Emotional intelligence requires self-awareness, and self-awareness has a positive relationship with literacy level. Individuals who are more educated are more aware of their emotions and have control on their emotions, which help them to act appropriately in any intense situation and also in decision making process. To get fruitful outcomes in a particular field, an individual must have appropriate knowledge of that field to get a successful result of an investment; individual should have an awareness of the appropriate investment tool to end up with determined outcomes. Bohuslava, Csikova and Antosova, (2013) explain financial literacy as the ability to use skills, experience and knowledge of an individual in order to make an appropriate decision regarding the use and management of their own finances for long life financial security for themselves.

Financial literacy affects the investment decision process. Individuals who have more knowledge and awareness of financial tools and stock market behavior are more capable to perform better than those who have low or don't have knowledge of financial tools and market activities. As Rooij, Lusardi and Alessie (2011) report that

the individuals who are not financially literate i.e. they are not aware of the working of stock market and are not familiar with stocks and bond, they keep themselves away from the stock market or they rely on the advice of friends and family while investing in stock market. Jappelli and Padula (2013) report that most adults have less knowledge about the basic concepts of economics and finance like risk diversification, inflation and interest component, due to which there are likely to be fewer chances to earn the required return.

Financial literacy increases the return of the investment. Consequently it is unblemished that financial literacy is positively related to investment decision. The relationship of financial literacy and investment decision making is affected by the risk perception of an individual. Investors, who are risk averse, hesitate to invest in risky assets. This statement indicates that investors who have risk aversive attitude favor diversification (Wang, Keller, & Siegrist, 2011). This evidence supports the traditional prospect theory. To avoid the risk aversive behavior, one should have knowledge of financial products and practically involve in investment processes.

There are limited studies available which examine the combine effect, of emotional intelligence and financial literacy on specifically, investment decision making. While making decisions about investment either at an organizational or individual level, one who has controls over his/her emotions and have knowledge of financial market tools, would efficiently accomplish and establish entities and make better decisions than others. So, there is a need of rigorous research to examine the relationship of emotional intelligence and investment decision making.

## REVIEW OF LITERATURE

### Relationship of emotional intelligence and investment decision making

Intelligence is an ability of an individual to manipulate and renovate information in to new concepts. Thorndike and Stein (1937) were the first ones who suggested the existence of social intelligence which they explained as the capability of individual to understand and manage people. According to them social intelligence helps individual to identify their own and others behavior and internal situations and thus act in a suitable manner. Social intelligence is the ability to understand people (Ladd, & Chan, 2004). Social skills that are important components of social intelligence include the following abilities, the aptitude to express oneself in social dealings, the capability to “read” and comprehend different social circumstances, familiarity of social norms, personal problem-solving skills, and collective role-playing abilities (Riggio, & Reichard,

2011). Earlier, social intelligence who considered as an important predictor to measure intelligence of individual, but the trend is now moving towards emotional intelligence. Now emotional intelligence is considered more important predictor to measure intellect than social intelligence. Emotional skills emphasis on how emotions are taken. Both IQ and EQ are constituted of different aptitudes (Riggio & Reichard, 2011). The foundation of the concept of emotional Intelligence is the concept of social intelligence (Yunus, & Hassan, 2012).

Salovey and Mayer (1990) were the first who gave the concept of emotional intelligence. According to them, emotional intelligence is competency of perceiving opinions and feelings of ourselves and others and distinguishing between these feelings in order to help in run individual’s sentiments and actions. Their concept of emotional intelligence had to face a lot of criticism. Later Mayer and Salovey (1993) addressed these criticism in their paper as, to connect emotions with intelligence is not competent because emotions is less controversial area and would not able to measure the entire spectrum of intelligence which is a controversial area . They contempt this criticism as perceptive what other individual feel is a mental process, the way in which they addressed emotional intelligence is sequence of mental process and this abilities is a form of intelligence. Emotional intelligence vary among individuals, different people are less or more emotionally intelligent, some are more aware of their feelings than others and such awareness tend to make them regulate their own feelings effectively as well as others. Mayer and Salovey (1995) relate their concept of emotional intelligence with personality and clinical psychology. They developed three categories of emotional intelligent were emotional orientation, emotional involvement and emotional expertise. Afterwards Goleman (1995) broke down these dimensions into further five components which are self-awareness, self-management, self-motivation, awareness of other’s emotions, and handling relationships.

1. Self-awareness is the aptitude to comprehend the emotions that are affecting our sentiments and subconscious in mind and let us to act in a certain way (Quinn & Wilemon, 2009).
2. Self-management is an aptitude to regulator one’s emotions, and precludes one’s self from acting on compulsion without taking consideration of thought versus an emotional reaction (Quinn & Wilemon, 2009).
3. Self-motivation is an ability to control and motive oneself to be more productive.
4. Awareness of others emotions is an ability to understand other people action or behavior towards

specific situation (Barling, Slater, & Kelloway, 2000).

5. Handling relationships is an ability to manage the emotions of other individuals.

Different researchers defined emotional intelligence in different time periods. People who are good at linking thoughts to their feelings are rich in emotional intelligence; they have well understanding of theirs and others emotions as well (Mayer, & Geher, 1996). Emotional intelligence is recognizing one's own and others' emotions and help in problem solving (Schutte et al, 1998; Insead, 1999) and contains the capability to understand the components; how they change, and reason about emotions consequently (Mayer, Caruso, & Salovey, 2000). EI comprises of three distinct modules which are assessment and appearance of emotions, regulation of emotions and use of emotional information in acting and thinking (Petrides, & Furnham, 2000). The ability to recognize emotion is one of the important component of emotional intelligence (Picard, Vyzas, & Healey, 2001), and it is also helpful in predicting the social success (Der Zee, Thijs, & Schakel, 2002). It is a determinant of real life consequences (Saklofske, Austin, & Minski, 2003) and success (Alon & Higgins, 2004). Emotional intelligence have four branches, perceiving emotions, using emotions to facilitate thought, understanding emotions, and managing emotions (Yan-hong, Runtian, & Wang, 2009) and also identifies the relationship between feelings, thoughts and behavior (Ahangar, & Rooshan, 2010). The concept of emotional intelligence comprises psychology and management of multiple features like emotional perception and understanding of emotions (Kangyin, & Yujie, 2011) and improves the decision making process (Scott-Ladd & Chan, 2004). Emotional intelligence is important in making rewarding outcome in decision making process. Those who are emotionally intelligent and have control on their emotions could enhance the ability to accomplish their work and understand the consequences of factors that affects the outcomes. According to Sevdalis, Petrides and Harvey(2007)decision-makers anticipate their emotions before making a decision they experience them when they receive the consequence of their decisions, and they recollection them from memory when they consider preceding decisions (good or poor). Emotional intelligence increases the confidence of individual which lead to positive outcomes (Gardner & Stough, 2001). As in other domains, emotional intelligence is also a good representative of investment decision making and it considered as a significant tool in refining the effectiveness of individual in managing their interface with stakeholders (Quinn & Wilemon, 2009). From the above evidences we can conclude that investors who are

more emotionally intelligent have more probability of successful outcome of their investment decisions than those who are less emotionally intelligent.

*Hypothesis 1. Emotional Intelligence is positively related to Investment Decision Making.*

### **Relationship between financial literacy and investment decision**

In our daily life, money has become an essential part, consciously or unconsciously. To be capable to earn money, save it, invest it and to familiarize oneself with financial products in market these days, each person should have financial knowledge (Zvarikova & Majerova, 2013). Financial literacy is to have knowledge, confidence and skill to make effective financial decisions (Altman, 2012). There is a positive link between literacy and education level. The general education is strongly associated with financial literacy (Duca, & Kumar, 2014). Educated people are able to understand the dynamics of financial market. With the development of financial markets, the need for financial literacy has become substantial (Marcolin & Abraham, 2006). Individuals' financial knowledge and decision to participate in financial markets is greatly influenced by social interaction with colleagues, friends and family members. There is a greater effect of word-of-mouth communication because information tends to switch easily between geographically close beings (Bönte & Filipiak, 2012).

There are several consequences of poor and good literacy of financial products. Rooij, Lusardi and Alessie (2007) found that individuals who have low literacy level are more likely to depend on their friends and family for financial advice, and less likely to participate in stock market. According to Lee, Yun and Haley (2012), investors with low financial knowledge were likely to give more consideration to advertised mutual fund as compare to those investors with low financial knowledge. The individuals who have poor financial literacy are probable to lack confidence when translating credit terms, and demonstrate confusion over financial concepts. They also hesitate to engage in activities which could help them to improve their awareness of the financial market (Gathergood, 2013). The income level leading to better educational training and work place activities affect the level of financial literacy of an individual (Al-Tamimi & Kalli, 2009). Usually households have less literacy level; many of the households do not even know the basic difference of stocks and bonds, the relationship of price and interest rates of bond and uncomplicated concepts of diversification (Rooij, Lusardi, & Alessie, 2007). They

rely on their savings for investment; savings help them to smooth their consumption and to do productive investment (Karlan, Ratan, & Zinman, 2014).

The decision of investment is a difficult one with serious opposing selection of risk. Once an illiquid investment is made, the success of such investment is highly dependent on managers (Fried, & Hisrich, 1994). Financial literacy is essential for planning and decision making. One of the reasons of the peoples' failure of planning is because they are financially less literate and inexperienced. Literacy level of investor influences planning processes and this will lead to increase the wealth of the holder (Lusardi & Mitchell, 2007; Jappelli & Padula, 2013). One of the factors which influence the effect of investment decision is financial literacy (Rooij, Lusardi, & Alessie, 2007; Al-Tamimi & Kalli, 2009; Rooij & Lusardi, 2010). Financial literacy level of individual is influenced by the level of income and education. Individuals who have high income, holds high educational degrees and those who work in the area of finance and investment are expected to have higher financial literacy level than others (Al-Tamimi & Kalli, 2009). Financial literacy is typically related to financial education and financial outcome (Huston, 2010) and it can be improved only if individuals are determined to make risky choices that can be corrected by involvement in the decision-making process, and it can also be improved with a providence of better quality of information to decision makers (Altman, 2012). The responses of investor regarding investment decision vary with increase and decrease in the prices of stock (Sturm, 2003). From all above evidences it can be conclude that financial literacy have a positive impact on investment decision making.

*Hypothesis 2. Financial Literacy is positively related to Investment Decision Making.*

### **Mediating role of Risk Perception between Financial Literacy and Investment Decision**

People use different ways in addressing the work related decisions or personal decisions that contains uncertainty and risk. These differences among individuals are frequently described as risk perception or risk attitude. To get desired outcome, investor should have an understanding and knowledge of risk associated with investment. It is necessary that investor understand the risks of investing in securities (Dvorak & Hanley, 2012). Risk aversion is representative of the utility of money; people are risk averse for higher gain and for lower loss and risk seekers who focused on lower gain and higher loss (Warneryd, 1996). Loss-aversion attitude of investor is associated with a

probability of participation in investment. Higher loss-aversion lessens the likelihood of direct stockholding by significantly more than the possibility of keeping mutual funds (Dimmock & Kouwenberg, 2010). Time period plays an important role is risk perception attitude of investor. Investors are seen to be more risk averse in creating portfolio decision on the basis of 1 year data than on the basis of 10 year data (Anderson, & Settle, 1996).

Bay, Catusu and Johed (2014) explained literacy as the aptitude to read and write; the skill to use language efficiently further they said that the financial literacy is not only the ability to read, write and understand the language of accounting and finance, instead financial literacy need practice because characteristics that formulate the financial literacy is vary with place and time. The psychology of an investor is associated with individual's age and income level, knowledge and way to assume the perception of risk (Walia & Kiran, 2012). Investors who are financially literate are more risk takers; they invest in risky securities, and those who are not aware with financial products are risk averse and they are less likely to invest in risky securities. The sophisticated level of information provided to investor will encourage him to tolerate more risk (Kaufmann & Weber, 2013). Perceive investment risk is a predictor of financial literacy (Sachse, Jungermann, & Belting, 2012). Financial literacy of an investor has positive relationship with risk perception of investor.

Risk plays a dominant role in decision making (Forlani & Mullins, 2000). Like in other domain the risk perception attitude of investor also play an important role in decisions related to investment. Risk perception has a significant impact on investment decision. Study suggested that the risk perception attitude of investor is affected by the pricing of stocks in stock market (Grable, Lytton, & O'Neill, 2004). News reveals in stock market regarding the prices of stocks and bonds will affect the investor's investment decision which was reflects the risk perception attitude of individual.

From the above evidences it is concluded that financial literacy has positive impact on risk perception attitude of individual. People who are financially literate are more exposed to the risk; they are risk takers and individuals who are not financially literate are usually risk averse, they hesitate to invest in risky assets. Further study suggested that the decision making process of investor reflect its risk perception attitude and investment decision making is greatly influenced by financial literacy. According to Bönnte and Filipiak (2010) investors risk attitude has significant impact on investment decision making which lead to influence the information seeking activities and in turn increase the awareness of individual about financial instruments.

According to our observation risk perception plays a mediating role between financial literacy and investment decision.

*Hypothesis 3. Risk Perception plays a mediating role between Financial Literacy and Investment Decision.*

### Mediating role of risk perception between emotional intelligence and investment decision

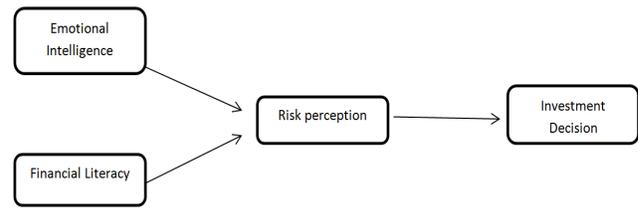
To get desired outcome, investor should have an understanding and knowledge of risk associated with investment. It is necessary that the investor understands the risks of investing in securities (Dvorak, & Hanley, 2012). Selection of securities is associated with perception of risk attitude of investor. The degree of risk associated with investment is because of selection (Lintner, 2014).

Risk perception attitude of investor is strongly linked with his personality type. Some individual are risk taker and others are risk averse; both of these attitude depend on the nature of individual. It is assumed that people who are able to manage their emotions are risk takers, as emotional intelligence (EI) involves management of emotions (Arora et al, 2010) and people who have less control over their emotions and feelings are introvert and considered risk averse. Emotional intelligence is arrangement of emotions (Bar-On, Tranel, Denburg, & Bechara, 2003). Risk perception attitude of individual contain emotional aspect. Risk and uncertainty is subjectively perceived and it involves psychological and emotional factors (Virlics, 2013).

Investor evaluates the risk and returns of all the available investment alternatives and then makes the investment decision accordingly (Andersson & Gong, 2010). Decision will be more affected by the individual's intolerance of uncertainty or risk (Iyer, McBride, & Reckers 2012). Investment decision is greatly affected by the behavior of investor regarding risk taken. Risky decision-making is a process of incorporating the desirability of different outcomes (Shiv, Loewenstein, & Bechara, 2005). So from the above evidences, we could conclude that emotional intelligent individual are more exposed to risk taken behavior and investment decision making is also affected by the risk perception, so risk perception plays an important role between emotional intelligence and investment decision making

*Hypothesis 4. Risk Perception plays a Mediating role between Emotional Intelligence and Investment Decision.*

**FIGURE 1**  
**Theoretical framework**



## RESEARCH METHODOLOGY

### Sampling

The sample was consisting of investors who had invested in different stock exchange in Pakistan and abroad. Total of 225 questionnaires were distributed in Islamabad stock exchange and in different banks and in offices. Out of 225 questionnaires 173 were received from which 152 usable; hence the response rate was 67.5%.

The respondents consisted of 82.9% (126) male and 17.1 % (26) female. The mean age of respondents was between 18-25. Education levels ranged from high school to Ph.D. from which with 0.7% of the respondents was having a matriculation degree, 3.9% were intermediate, 27.6% Bachelors, 50% Masters, 16.4% MS and 1.3% were Ph.D holders. 51 % of investors had experience from 1-5 years in investment, and other 49 % had experience of more than 5 years in investment.

### Measurement of Variables

All item scales of the variables were adopted from prior studies where they had been tested for reliability and validity. A 5 point Likert scale having a range from strongly disagrees to strongly agree was used.

The 14 scale questionnaire to measure the emotional intelligence was adopted from Wong and Law Emotional Intelligence Scale (WLEIS) (Wong & Law, 2002) having a reliability of 0.776

A 14 items Financial literacy questionnaire was measured using a scale adopted from Ekambaram et al (2003) having a reliability of 0.809

The risk perception attitudes of the investors was measured by 14 items questionnaire using a point biserial correlation adapted from Weber and Milliman (1997) with a reliability of 0.754

Investor behavior was measured using State Street's approach. After excluding an item, reliability reached 0.736

**RESULTS**

**TABLE 1**  
**Correlation analysis**

Variable	Mean	SD	1	2	3	4
1. Emotional Intelligence	3.5606	.57718	1			
2. Financial Literacy	3.1302	.65461	.282**	1		
3. Risk Perception	3.3036	.56040	.457**	.604**	1	
4 .Investment Decision	3.3515	.55933	.452**	.504**	.581**	1

\*\*P<0.001, \*p<0.05

Correlation analyses show a significant relationship between the independent variables (emotional intelligence and financial literacy) and mediation variable (risk perception). The table specifies that emotional intelligence and financial

literacy are positively and significantly correlated to risk perception (.457\*\*, .604\*\*, \*\*p<0.001). Correlation Analysis also shows that investor behavior is positively and significantly correlated to risk perception (.581\*\*, \*\*p<0.001).

**TABLE 2**  
**Regression Analysis**

Predictor	Risk Perception			Investment Decision		
	$\beta$	R <sup>2</sup>	$\Delta R^2$	$\beta$	R <sup>2</sup>	$\Delta R^2$
Step 1						
Control variable	.006			.031		
Step 2						
Emotional intelligence	.274			.290		
Financial literacy	.482	.476	.470	.395	.402	.371
Mediation						
Step 1						
Control variable				.031		
Step 2						
Risk perception				.580	.367	.336

N=152, Control Variables: Age, Qualification and Gender, \*\*p<0.001, \*p<0.05

**TABLE 3**  
**Mediation Regression Analysis**

Predictor	Investment decision		
	$\beta$	R <sup>2</sup>	$\Delta R^2$
Step 1			
Control Variables		.031	
Step 2			
Mediation	.580	.367	.336
Step 3			
Emotional Intelligence	.206		
Financial literacy	.246	.452	.085

N=152, Control Variables: Age, Qualification and Gender, \*\*p<0.001, \*p<0.05

The regression and mediation regression analysis was used to examine the mediating role of risk perception behavior of investor between emotional intelligence and

investment decision making, and also between financial literacy and investment decision making. The results show that after controlling the control variables and mediation, there still exists a significant relationship between emotional intelligence and investment decision ( $\beta = 0.206, p = 0.002$ ), and subsequently in the case of financial literacy, after controlling control variables and mediation, there still exist a significant relationship between financial literacy and investment decision ( $\beta = 0.246, p = 0.001$ ). This shows that the relationship of dependent and independent variables don't need any mediating variable.

**CONCLUSION & DISCUSSION**

The purpose of our research article was to find the significant impact of investor's emotional intelligence and financial literacy on investment decision making with a mediating role of risk perception behavior of

investors. For this purpose we developed hypothesis on the basis of previous literature and test those hypothesis by using different measurement tools.

Generalizing our results, two of our hypothesis; H<sub>1</sub> and H<sub>2</sub> have been accepted and two of our hypothesis; H<sub>3</sub> and H<sub>4</sub> has been rejected. The direct link between emotional intelligence and investment decision making and the direct link between financial literacy and investment decision making has been accepted. However, when we studied these two relationships under risk perception, the result was totally opposite to our expectations which lead to rejection of our hypothesis.

Studies show a significant relationship between emotional intelligence and investment decision making of an investor. Investors who are emotionally intelligent are good decision makers. Like previous studies, our results also show a significant relationship between investors' emotional intelligence and investment decision making.

Literature also suggested that those investors who have knowledge of financial products and stock market behavior can make decisions by considering the entire factor that could affect their decision as per their awareness. We found the same significant and positive relationship between investors' financial literacy and investment decision making.

However, when we examined the association of emotional intelligence and financial literacy with investment decision making of investor under the risk perception attitude of investor in the same setting, we found an insignificant relationship between them. Risk perception attitude of investor did not play a significant mediated role between the relationship of emotional intelligence and financial literacy with investment decision making. One of the reasons of the rejection of this hypothesis is could be that the risk perception behavior of investor is an inherent characteristic of an individual that does not get affected by the dynamics like emotional intelligence and financial literacy. Individual either has a risk aversion attitude or risk taking attitude, both of these attitudes is engrossed from parents and surroundings and proceeds up to the entire life of an individual. However the aspects emotional intelligence and financial literacy could only increase or decrease the intensity of this behavior, but could not totally change the attitude of investor i.e. from risk aversion behavior to risk taking behavior. If a person has a risk aversion behavior, he would invest in less risky securities, despite of his substantial knowledge about the dynamics of stock markets.

### Limitations

As the study was conducted for the academic

purpose, the sample size chosen for the study was quite small. However, considering the significance of this study the sample size should have been much larger.

### Future Extension of the Study

The research focused on financial literacy, emotional intelligence, perceived risk attitudes as factors determining investor's investment decision making. However, the study identified some other areas which need to be explored in further clarifying the investors' decision making.

The zones are suggested for further research, would investors' trust regarding investment in stock market and its impact on investment decision making and the role of gender in this process.

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