

## The Role of Psychological and Social Factors on Investment Decisions of Retail Investors in Indonesia Stock Exchange

Nadime Abiyyu Fathin, Hersugondo Hersugondo<sup>✉</sup>

Faculty of Economics and Business, Diponegoro University, Semarang, Indonesia

### Info Article

*History Article:*  
Submitted 21 May 2022  
Revised 14 June 2022  
Accepted 27 July 2022

*Keywords:*  
Behavioral Finance;  
Psychological Factors;  
Social Factors; Investment  
Decisions; Retail Investors.

### Abstract

Decision-making is a complex process of selecting the best available option from several options. This study examines the psychological and social factors which are affecting investment decisions. Some studies from Western and Middle Eastern countries prove that psychology does have a relationship and influence on investors' decision-making in their stock market. Based on these, the researchers tried to review the research and add social factors as additional variables. Questionnaires were randomly distributed to 105 investors who are students, private employees, entrepreneurs, civil servants and others from the age range of less than 25 years to more than 55 years who have been involved in the market which shows that psychological factors and social factors as a whole have influence on investment decision making in Indonesia Stock Exchange's retail investors.

## Peran Faktor Psikologi dan Sosial terhadap Keputusan Investasi Investor Ritel di Bursa Efek Indonesia

### Abstrak

Pengambilan keputusan merupakan proses yang rumit untuk memilih opsi terbaik yang tersedia dari sejumlah opsi. Penelitian ini bagaimana faktor psikologis dan pengaruh sosial keputusan investasi. Sejumlah penelitian yang berasal dari sejumlah negara Barat dan Timur Tengah menunjukkan bahwa psikologis memang memiliki hubungan dan pengaruh terhadap pengambilan keputusan investor di pasar saham mereka. Berdasarkan hal tersebut, peneliti mencoba mengkaji ulang penelitian tersebut dan menambahkan faktor sosial sebagai variabel tambahan. Kuesioner didistribusikan secara acak kepada 105 investor yang berprofesi sebagai Mahasiswa, Karyawan Swasta, Wiraswasta, Pegawai Negeri Sipil dan yang lain-lain dari rentang umur kurang dari 25 tahun hingga lebih dari 55 tahun yang terlibat di pasar yang mana menunjukkan bahwa faktor psikologis dan faktor sosial secara keseluruhan berpengaruh terhadap pengambilan keputusan investasi para investor ritel di Bursa Efek Indonesia.

JEL Classification: G4, G41

How to Cite: Fathin, N.A., Hersugondo, H., (2022). The Role of Psychological and Social Factors on Investment Decisions of Retail Investors In Indonesia Stock Exchange. *Jurnal Dinamika Manajemen*, 13(2), 236-252.

<sup>✉</sup>Correspondence Address

Institutional address : Department of Management, Faculty of Economic and Business,  
Diponegoro University  
Email: [hersugondo.lecturer@live.undip.ac.id](mailto:hersugondo.lecturer@live.undip.ac.id)

ISSN  
2086-0668 (print)  
2337-5434 (online)

## INTRODUCTION

Capital market investors in Indonesia have always increased in recent years. Indonesian Central Securities Depository (KSEI) stated, that as of the end of January 2022, the number of Indonesians who invest in the stock market has risen to 7.86 million investors with a 5% increase compared to the end of December 2021. Capital market investors in Indonesia are dominated by Generation Z and Millennial Generation which is aged 30 years and under with the proportion reaching 59.81% of the total (KSEI). Generation Z who are still young tends to be biased when investing because they tend to have less experience than investors who are older than them. This percentage is lower than the generation who older than them, namely millennials (26 – 41 years old) at 61%, GenX (42 – 57 years old) at 54%, and Boomers (58 – 76 years old) at 52%. Thus, investors must understand their investment decisions and the factors that influence those decisions.

Humans behave irrationally when making their investment decisions (Moueed et al., 2015). A pattern that is standard and rational is very important to be a really important investor in the stock market and is also an important prerequisite to be financially successful and for this one must overcome tendencies like heuristics that lead to a successful investor (Parveen et al., 2020). But very rarely or almost no investors follow the standard pattern to make decisions and behave rationally with decisions that are always in their favor with regard to profit and only profit (profit-oriented).

Information can influence investors' judgments, according to behavioral finance, but this information changes emotions, which leads to cognitive bias. When investors analyze information concurrently, Rafay & Farid (2018) discovered evidence of an order effect in the form of a primacy effect. Even if the information is thought to be fair, objective, and valuable for decision-making, investors remain prone to primacy effects, according to the authors. They claimed, in particular, that

the order in which information was presented purposefully altered investors' decisions by taking advantage of human cognition limits. Behavioral finance aims to explain why individual investors and markets behave in unusual ways. The concept of financial behavior was fully created in the 1920s when Selden (2012) presented his observations on the psychology of the stock market, where mental attitudes have a huge influence on equities. The modern financial theory proposes financial behavior that controls market behavior. This indicates that individual investment decisions can be influenced by a behavioral perspective by linking the concept of financial relationships with psychology and sociology (Sattar et al., 2020). Several scholarly articles in finance have documented investors' irrational behavior (Shiller, 2000; Duran & Caginalp, 2007; Mittal, 2019). Kahneman & Tversky (2013) wrote a Behavioral biases paper titled "Prospect theory: An analysis of decision under risk". As the concept of prospect theory was established, this study became a well-known paper on the subject of behavioral finance. When the likely outcome of an investment decision is known, this theory describes how investors make decisions based on probabilistic options involving risk. Thaler (1980) made a significant contribution by explaining the prospect theory using an alternative descriptive theory. Rather than thinking investors to be cold and unreasonable, he contends that they are influenced by behavioral biases, which lead to less-than-optimal decisions. Several researchers have questioned the theory and assumptions of traditional and modern finance from time to time. However, different issues and criticisms have been raised about behavioral finance theories.

In this study, personality variables such as mood, fear, and anger were taken into account to identify investor behavior. There are several reasons that cause investors to distort their neutral mode of investing. This reason is supported by research conducted by Moueed et al. (2020). The research shows that the psychological and social factors of investors affect their

process of making investment decisions. This study will describe how social and psychological factors influence investment decisions and the way investors behave under the influence of these biases. Then, the influence of emotional, social, and personality factors are combined to test investor behavior. Finally, there is a comparison of psychological and social factors, namely which circumstances have a smaller influence on investment decisions and which have a greater influence. Researchers conducted this research because there are many issues in Indonesia where people invest by following recommendations from friends or even from strangers on social media. So that many of them are dependent so that individual investors are not independent in determining their investment decisions. Therefore, this research involves psychological factors as well as social factors to complete the previous research. These factors include fear, mood, anger, social interaction, herding, and stress as well as to examine which of the two factors has more influence on investors' investment decisions on the Indonesia Stock Exchange.

### **Hypothesis Development**

The traditional financial theory aims to explain why financial markets run efficiently, whereas behavioral financial theory tries to explain why inefficiencies and abnormalities in financial markets exist. As a result, behavioral finance theory explains how and why markets are inefficient in some ways (Asad et al, 2018). According to Shiller (2003), all assets in the capital market have inherent volatility induced by human irrational behavior. Tuyon & Ahmad (2016) believe that rationality's adoption in the Malaysian stock market decides prices and keeps the market stable, resulting in the adopted and restrained market's efficiency. Then, Toma (2015) looked into the psychological aspects of investing in the Romanian stock market. Overconfidence, following other people's conduct, and other investment bias characteristics are common in these markets. The return and profitability in the market are heavily influenced by the investor's age and trading frequen-

cy. Oprean (2014) investigates the significance of behavioral elements in influencing investors' financial decisions in Brazil and Romania, concluding that irrational decisions influence trading. Furthermore, in Romania, Slovenia, Hungary, Slovakia, and the Czech Republic, Trifan (2020) investigates the influence of numerous behavioral biases and stock returns. The test revealed that emotion and judgment have a substantial impact on the stock market. Investor demographic parameters such as education, age, occupation, and income significantly impact each investor's investment preferences.

Investment decision-making is a complicated method that requires an examination of numerous aspects, including social considerations and overconfidence. Psychological behavioral finance theory aims to comprehend how the fallaciousness of cognitive and emotions affect individual investor behavior. The majority of behavioral finance research stems from cognitive psychology, which studies how investors think and create logical decisions. Chandra (2008) conducted one such study, attempting to see how psychological as well as another behavioral biases influence investor decision-making in India. Individual investment decisions are influenced by different behavioral characteristics such as greed, fear, heuristics, and so on, according to the study. As a result, behavioral concerns are a big issue that retail investors should not overlook and should include as a risk element in any investment strategy to mitigate potential losses.

### **Mood**

One component of the psychological factor, namely mood or emotion, is closely related to the investors' investment decision-making process in the capital market. A good mood with a bad mood certainly has a different influence on the retail investors' investment decisions in the stock market. Should the investors are in a good emotional state, they tend to be able to invest their money appropriately and well. Investors who are initially not influenced by other parties related to their in-

vestments can be affected when their emotions are bad (Lestari & Wahyu, 2014). Investors who are in a bad mood prefer information that tends to support their actions or opinions and will ignore unpleasant information. Another tendency is that investors who are emotional will ignore transactions that have uncalculated risks and tend to prefer local stocks over foreign stocks. Emotional investors also need a long time to realize the losses that occur due to market growth in an adverse direction. They have a tendency to be silent and only pay attention to the losses that occur until they actually lose. It is reciprocal with the results of research by Duxbury (2015) which indicates that mood has a negative influence on decisions of investment. However, these results are in contrast to research Riaz & Haroon (2015) which found that emotional bias positively impacts investment decision-making. That being stated, the hypothesis of this study are as follows:

H1: Mood has a positive influence on investment decisions.

### Anger

Anger is a type of anxiety experienced by someone who intentionally and willingly engages in harmful behavior. According to some experts, furious investors' consciousness begins to provide them with more hints regarding the scenario, as well as having a better grasp on the problem compared to normal investors (Ellsworth & Scherer, 2003). As a result, rage aids in the development of a strategy for achieving favorable outcomes. Lerner & Keltner (2001) discovered a link between rage and financial decisions. Anger, according to Small & Lerner (2008), increases memory and analytical ability. Anger is used by investors to quickly assess risks, options, and events. Mitchell & Ambrose (2012) created a research tool to look at various connections and emotional states between rage and a variety of other factors. Aggression has bad implications, according to their research, yet anger prompts investors to assess the problem right away. Anger tends to have a favorable impact on investing and financial decision-making,

as well as the entire financial performance (Gambetti & Giusberti, 2012; Szasz et al., 2016). As a result, the researcher hypothesizes that "rage" is positively associated with investor decision-making based on relevant literature and theory. This study postulated the following based on the above:

H2: Anger has a positive influence on investment decisions.

### Fear

Fear is a physical and emotional reaction to risk that has been shaped by previous experiences (Aren & Akgunes, 2018). Fearful people make negative predictions about the future (Lerner & Keltner, 2001). Frightened investors, logically, became more informed and concerned regarding the situation, and shun riskier and international stocks in order to prevent uncertainty (Tiedens & Linton, 2001). Furthermore, fearful of losing, they seek out as much information as possible regarding investments, that supports them enhance their decision-making and leads to better outcomes. Although fear is a bad feeling, it frequently has positive repercussions. The direction of fear's influence on financial decision-making, however, is unclear. Fear, according to Katkin et al. (2001), can make people aware of threats, influencing investors to spare time and create informed judgments pertaining to the underlied investing decisions. Fear can lead investors to seek out opportunities that are less profitable. Investors who are fearful are thought to be more pessimistic and conservative when it comes to taking risks. When making financial decisions that are hazardous, they feel more uncomfortable. As a result, they might choose to exit the market or create fewer hazardous choices (Lee & Andrade, 2011). Fear of losing is a negative emotion that causes investors to overthink or avoid a scenario. Fear can be beneficial to investors since it helps them avoid losses by delaying decisions (Cao et al., 2009). Diversification is used to reduce risk and loss when there are accessible investment options and fearful investors on investing in foreign

companies (Kligyte et al., 2013; Nunez et al., 2015). Another key good effect of fear is that it can lead investors to diversify their investments. As a result, the researcher believes that “fear” influences investors’ decisions positively. This study postulated the following based on the above:

H3: Fear has a positive influence on investment decisions.

This study also aims to analyze the effect of individual investors’ social factors. Social factors are made by external forces interfere with one’s decision-making. Social interactions with relatives and friends, as well as the media, and the internet, are becoming important means of disseminating and giving out ideas and information. Individual investors that are influenced by and discussing with their friends, neighbors, family members, neighbors and friends, as far as their concerning investment decisions (Nofsinger, 2005). Thus, social issues are a problem that retail investors should not ignore and should be indicated as a risk factor to reduce potential losses that may occur and make investment decision strategies more effective.

### **Social interaction**

The concept of financial sociology describes investors’ financial behavior in terms of the social environment (Prechter, 2016). Social mood swings from pessimism to optimism, and vice versa, are common. The stock market index, as an indicator of the most versatile movement of the performance of a financial market, can be used to gauge the society (Sosiometer). Financial markets are known as subjective, illogical, and influenced by herd behavior due to their substantial reliance on the social environment.

Traditional financial theories likewise the efficient market hypothesis, the anticipated utility theory, the principle of rationality, and the Fama-French model are all supported by sociometry (Sharma, 2019; Heise, 2020). Individual moods reflect the social atmosphere, which is defined as in concert with a shared

state of mind (Nofsinger, 2005; Ziembinski, 2015). In making decisions, emotions play a crucial influence. This is especially true for risky judgments because the danger is a sensation as well (Loewenstein et al., 2001). Social media, like Twitter and Facebook trends, also has an impact on the stock market index (Bollen et al., 2011; Ruan et al., 2018; Rao & Srivastava, 2014). Because of the advancement of information technology, information can now be shared widely and rapidly. The interaction of human and knowledge transmission via social media have an impact on trust and shared cognitive processes. As a result, investors’ moods and social contacts influence their risk-taking and investment decisions (Loewenstein et al., 2001; Lucey & Dowling, 2005). This study postulated the following based on the above:

H4: Social Interaction has a positive influence on investment decisions.

### **Herd Behavior**

Herding behavior is a process in which market participants emulate one another and make decisions based on past decision-makers’ actions (Hwang & Salmon, 2004). When investors are pressed for time, they are more prone to follow the advice of others rather than evaluate the facts they are given. Different categories of investors may have different causes for herding behavior in this situation. Individual investors, for example, might involve in herding behavior, and adhere to other investors and a number of investors prior to making financial decisions. Then institutional investors talk about their previous experiences or investing judgments. To maintain their compensation and reputation, they sometimes copy the judgments of other institutional investors (Kumar & Goyal, 2015). Based on a behavioral viewpoint, herding can result in a variety of emotional biases, including the effect of copying other people’s choices of trading assets, asset allocation, selling or buying decisions, the effect of following other people’s investment views, the effect of follo-

wing news instead of beliefs, and the impact of following information obtained from oneself. This study postulated the following based on the above:

H5: Herd Behavior has a positive influence on investment decisions.

**Stress**

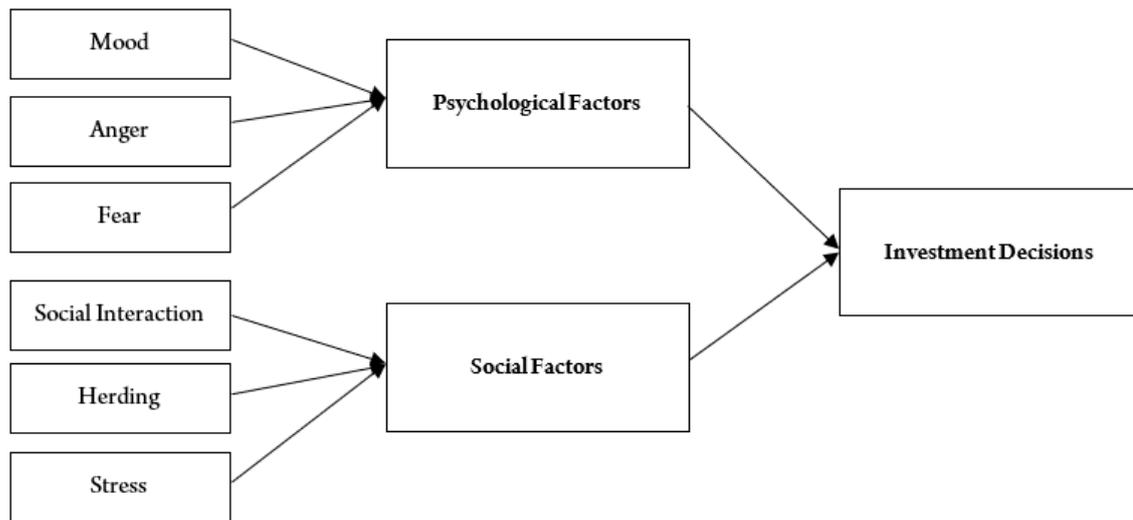
Generally, it seems that investors under temptation will select equities that they

decisions. This study postulated the following based on the above:

H6: Stress has a positive influence on investment decisions.

**METHOD**

The data used is by randomly distributing questionnaires to retail investors involved in Indonesian market trading activities. The respon-



**Figure 1.** Empirical Research Method

Would not normally select. This indicates that people cannot use their cognitive skills to their full potential under stress, resulting in undesirable outcomes (Davidson et al., 2000). Workplace stress, investment disruptions, and even domestic issues can all cause stress. Negative experiences are commonly related to stress. Under duress, investors become exceedingly concerned or sad. This is what happens when individuals are stressed and make poor decisions. Decision-making under duress demonstrates that ambiguity in decision-making is common under stressful conditions (Useem et al., 2005).

Furthermore, research conducted by Moueed & Hunjra (2020) explains that psychological factors such as anger, stress, positive mood, and fear affect stock market investment

decisions consisted of the age category of fewer than 25 years to the age category of more than 55 years. The professions of the respondents in this questionnaire are divided into five namely entrepreneurs, private employees, civil servants (PNS), students, and others (BUMN, RT, Freelancers).

These professions are determined after the respondents return the questionnaire that has been given by the researcher. The sample size used in this study was 105 respondents consisting of various categories that have been described previously. Babin et al. (1998) prompt that there should be at least 100 respondents to be studied with quantitative research according to the method of data analysis. In this study, samples were taken from investors involved in the Indonesia Stock Exchange. The research sample was collected through a technique of cluster ran-

dom sampling, in order for the selected sample to truly represent the population of the respondent group involved in trading in the Indonesian stock market. The object studied in this study is very broad in scope because it includes investors in the Indonesian stock exchange at random, so this technique is suitable to be used because it is a sampling technique used to determine the sample if the object under study is very broad.

For this research, all information and data were supported by empirical sources through a questionnaire. The questionnaire consists of one dependent variable and six independent variables. The independent variable includes psychological factors, namely mood, anger, fear, and social factors, namely social interaction, herding, and stress. Then, the dependent variable is an investment decision. This questionnaire is self-completion in which respondents independently fill out the questionnaire to answer questions. This is because there is a tendency for the relevant in-

formants to show social desire when being interviewed. There will be no variation in interviewers because all questions will be asked in the same fashion. In addition, the questionnaire also makes respondents more comfortable in answering related research questions. Likert scale was applied to the questionnaire. The Likert method rating scale allows respondents to be asked whether they strongly agree or disagree with the question. This study uses a 5-point Likert scale to obtain information related to social and psychological factors that affect individual investors. 5 points on a scale of 1 to 5, namely strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). This study examines the proposed research model using a total of 35 indicator statements which are divided into five mood items, six anger items, five fear items, four social interaction items, three herding items, seven stress items for the independent variable, and five investment decision items as the dependent variable, as shown in Table 1 below:

**Table 1.** Indicator Statement

<b>Indicator</b>	<b>Item</b>	<b>Statement</b>
Mood	M1	I believe that I Cannot get over my anxiety.
	M2	My ability to observe is increased when I'm satisfied.
	M3	When I'm excited, I manage many things.
	M4	I typically give up when I'm frustrated.
	M5	I'm depressed, therefore I can't move past things quickly.
Anger	A1	I lose my temper easily but quickly get over it.
	A2	I let my frustration and annoyance come through.
	A3	I occasionally feel like I could blow up.
	A4	I have a peaceful demeanor.
	A5	When I'm angry, I make investing decisions using my predictive abilities.
	A6	My pals sometimes believe I'm a hothead.
Fear	F1	I believe my understanding of stock investing is adequate.
	F2	Knowledge and expertise, rather than luck, are the essential prerequisites for success in the stock market.
	F3	The idea of investing in the stock market makes many feels anxious.
	F4	I think the stocks are hazardous.
	F5	Investments in the stock market might cause uncomfortable exhilaration.
Social Interaction	SI1	A dispute with me is easily won by someone.
	SI2	I believe that I am not as content as other people appear to be.
	SI3	I believe those that don't believe in others perform better.
	SI4	I believe my problems outweigh those of others.

Herding	H1	If there were numerous “buy” orders placed on the equities at the start of the trading session, I would like to purchase them.
	H2	I would increase the total of my stock market holdings if, over the past month, the total trading activity on the stock market was higher than typical.
	H3	If I saw a large number of people leaving the stock, I would like to sell it.
Stress	S1	I frequently become quite agitated when I anticipate an unpleasant event.
	S2	I’m concerned about making errors.
	S3	I take criticism and reprimands very personally.
	S4	Usually, when I want something, I will do anything to obtain it.
	S5	I frequently take quick decisions.
	S6	Even when horrible things are about to happen to me, I rarely feel scared or anxious.
	S7	When I believe or know that someone is angry with me, I start to feel pretty anxious or upset.
Investment	ID1	My stock investment has a very high level of safety.
Decisions	ID2	Compared to the market as a whole, my investment is more risk-averse.
	ID3	Compared to other investments, mine provides me more dividends.
	ID4	In recent years, the portfolio growth of my investment has increased.
	ID5	I regularly assess the performance of my portfolio.

Source: Moueed et al., 2015

This research was carried out using the SPSS 26 application. Multiple regression analysis is a technique for determining which variables provide the most and least impact on investment decisions. The regression equation utilized in this research is as follows:

$$ID = \beta_0 + \beta_1 \text{Mood} + \beta_2 \text{Anger} + \beta_3 \text{Fear} + \beta_4 \text{Social Interaction} + \beta_5 \text{Herding} + \beta_6 \text{Stress} + \varepsilon$$

Where; ID = Investment Decision;  
 $\beta_0$  = Constant Value;  
 $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  = Regression Coefficients;  
 $\varepsilon$  = Error term.

**Table 2.** Descriptive Statistics

Category	Description	Frequency	Percentage
Gender	Male	66	62.8%
	Female	39	37.2%
Age	<25 yr	80	76.15%
	25 – 35 yr	17	16.15%
	36 – 45 yr	5	4.75%
	46 – 55 yr	2	1.95%
	>55 yr	1	1%
Profession	College student	76	76.32%
	Private employees	17	16.1%
	Entrepreneur	5	4.72%
	Government employees	4	3.8%
	Others	3	2.82%
Investing experience in the capital market	<1 th	42	40%
	1 – 3 th	54	51.4%
	4 – 5 th	4	3.8%
	>5 th	5	4.8%

Source: Processed primary data

**RESULT AND DISCUSSION**

According to the findings of research questionnaires issued to investors, about 62.8% of respondents surveyed are male, while the remaining 37.2% are female. 76.15% of respondents were in the age group <25 years ago followed by the age group 25-35 years with a percentage of 16.15%, then the 36–45-year age group was 4.75%, the 46–55-year age group was 1,95% and the rest are the age group > 55 years with a percentage of 1%. In terms of the profession or the main occupation of the respondents, the profession as a student is the most dominating profession with a percentage of 72.32%, followed by the profession of pri-

vate employees at 16.1%. Then there are 4.72% of respondents who work as entrepreneurs and 3.8% as Government employees (PNS). Furthermore, there are professions of respondents from other professional categories with a percentage of 2.82%, the professions included in that category are Freelancers, RT, and also BUMN. Almost half of the respondents surveyed with a percentage of 51.4% have experience investing in the capital market with a span of 1-3 years. Then followed by respondents who have investment experience < 1 year with a percentage of 40%. Respondents with experience investing in the capital market > 5 years were 4.8% and those with experience with a time span of 4-5 years were 3.8%.

**Table 3.** Descriptive Statistics and Frequency Distribution Related to Psychological Factors

Indicator	Item	Statement	No. of Respondents (N = 105)						
			S.D	D	N	A	S.A	Mean	Mean Overall
Mood	M1	I believe that I Cannot get over my anxiety.	2	18	47	27	11	3.26	3.68
	M2	My ability to observe is increased when I'm satisfied.	0	9	23	47	26	3.86	
	M3	When I'm excited, I manage many things.	0	8	18	47	32	3.98	
	M4	I typically give up when I'm frustrated.	0	13	31	41	20	3.65	
	M5	I'm depressed, therefore I can't move past things quickly.	0	10	35	39	21	3.68	
Anger	A1	I lose my temper easily but quickly get over it.	5	26	36	28	10	3.11	3.07
	A2	I let my frustration and annoyance come through.	11	35	42	15	2	2.64	
	A3	I occasionally feel like I could blow up.	3	27	51	19	5	2.96	
	A4	I have a peaceful demeanor.	2	23	45	23	12	3.19	
	A5	When I'm angry, I make investing decisions using my predictive abilities.	1	26	41	24	13	3.21	
	A6	My pals sometimes believe I'm a hothead.	4	25	28	33	15	3.29	
Fear	F1	I believe my understanding of stock investing is adequate.	2	24	28	37	14	3.4	3.7
	F2	Knowledge and expertise, rather than luck, are the essential prerequisites for success in the stock market.	1	4	30	35	35	3.9	
	F3	The idea of investing in the stock market makes many feels anxious.	2	12	33	38	20	3.6	
	F4	I think the stocks are hazardous.	0	11	21	51	22	3.8	
	F5	Investments in the stock market might cause uncomfortable exhilaration.	0	11	27	29	38	3.9	

Table 3 describes the indicators that are the determining factors in the questionnaire related to psychology. For the indicator of the first psychological factor, namely “mood”, the average of the 5 statement items submitted to the respondents is 3.68, which means that the average respondent is neutral and tends to agree with these items. Then, for the second indicator, “Anger”, the average of the 6 statement items submitted to the respondents is 3.07. This means that the average respondent answers the sta-

tement for this variable with responses that tend to be neutral. The third indicator of psychological factors is “fear”, the average is 3.7 out of 5 statement items with a total of 105 respondents who responded. This explains that the average respondent responds to the statement with an attitude that tends to agree.

Table 4 explains the indicators that are used as references in the questionnaire related to social factors. For the indicator of the first social factor, namely “Social Interaction”, the

**Table 4.** Descriptive Statistics and Frequency Distribution Related to Social Factors

Indicator	Item	Statement	No. of Respondents (N = 105)						Mean Overall
			S.D	D	N	A	S.A	Mean	
Social Interaction	SI1	A dispute with me is easily won by someone.	0	0	16	40	49	4.3	4.4
	SI2	I believe that I am not as content as other people appear to be.	0	4	15	38	48	4.2	
	SI3	I believe those that don't believe in others perform better.	0	2	12	37	54	4.4	
	SI4	I believe my problems outweigh those of others.	0	3	12	17	73	4.5	
Herding	H1	If there were numerous “buy” orders placed on the equities at the start of the trading session, I would like to purchase them.	13	20	33	17	22	3.14	3.34
	H2	I would increase the total of my stock market holdings if, over the past month, the total trading activity on the stock market was higher than typical.	9	8	35	35	18	3.43	
	H3	If I saw a large number of people leaving the stock, I would like to sell it.	7	16	28	30	24	3.46	
Stress	S1	I frequently become quite agitated when I anticipate an unpleasant event.	11	46	38	10	0	2.45	2.66
	S2	I'm concerned about making errors.	11	40	27	24	3	2.7	
	S3	I take criticism and reprimands very personally.	8	45	39	13	0	2.54	
	S4	Usually, when I want something, I will do anything to obtain it.	6	43	32	19	5	2.75	
	S5	I frequently take quick decisions.	1	45	35	19	5	2.83	
	S6	Even when horrible things are about to happen to me, I rarely feel scared or anxious.	6	38	39	20	2	2.75	
	S7	When I believe or know that someone is angry with me, I start to feel pretty anxious or upset.	4	50	36	14	1	2.6	

average of the 4 statement items submitted to the respondents is 4.4, which means that the average respondent gives responses that tend to agree with the statements of these items. Then, for the second indicator, “Herding”, the average of the 3 statement items submitted to the respondents was 3.34. This means that the average respondent answers the statement for this variable with responses that tend to be neutral. The third indicator of the influence of social factors is “Stress”, the average is 2.66 of the 7 statement items with a total of 105 respondents

who responded. This explains that the average respondent responds to these statements with an attitude that tends to disagree.

Table 5 explains the indicators as a reference in the questionnaire related to the dependent variable, namely investment decision. For the indicator of this dependent variable, namely “Investment Decision”, the average of the 5 statement items given to the respondents is 3.36 which means that the average respondent gives responses that tend to be neutral to the statements of these items.

**Table 5.** Descriptive Statistics and Frequency Distribution Related to Investment Decision

Indicator	Item	Statement	No. of Respondents (N=105)					Mean	Mean Overall
			S.D	D	N	A	S.A		
Investment Decisions	ID1	My stock investment has a very high level of safety.	4	14	36	39	12	3.39	3.36
	ID2	Compared to the market as a whole, my investment is more risk-averse.	5	16	38	38	8	3.27	
	ID3	Compared to other investments, mine provides me more dividends.	4	27	53	16	5	2.91	
	ID4	In recent years, the portfolio growth of my investment has increased.	3	8	31	50	13	3.59	
	ID5	I regularly assess the performance of my portfolio.	1	14	30	37	23	3.64	

**Table 6.** Results Hypothesis Test

Hypothesis	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	T-value	Sig.	F-Value	Sig.	R	R Square
(Constant)	-2.600	.736					.000		
X1 Mood	.039	.095	.037	0.414	.680				
X2 Anger	.197	.098	.197	2.003	.048				
X3 Fear	.284	.081	.252	3.508	.001				
X4 Social Interaction	.192	.080	.140	2.392	.019	247.955		.969	.938
X5 Herding	-.067	.025	-.070	-2.653	.009				
X6 Stress	.381	.068	.365	5.623	.000				

Dependent Variable: Y Investment Decision

Source: Processed primary data

According to the table above, a regression equation can be formed as below.

$$ID = -2.600 + 0.039 \text{ Mood} + 0.197 \text{ Anger} + 0.284 \text{ Fear} + 0.192 \text{ Social Interaction} + -0.067 \text{ Herding} + 0.381 \text{ Stress} + \epsilon$$

From the regression equation that has been compiled, if the independent variables such as mood, anger, fear, social interaction, herding, and stress are the same as zero, then the value of the Investment Decision constant is -2,600. Furthermore, from a psychological point of view, the mood factor positively affects investment decisions with a positive estimated coefficient of 0.039. In other words, should the other variables were constantly held, a one-unit increase in mood would direct to a 0.039 increase in the impact on retail investors' investment decisions and vice versa. On the other side, every one unit increase in the anger variable may cause an increase of 0.197 related to the influence on investment decision-making of retail investors. Then, each increase of one unit of fear (fear) will cause an increase of 0.284 related to the influence of retail investors' investment decisions.

In terms of social factors, the variable regarding social interaction has a positive effect on investment decisions with an estimated coefficient of 0.192. Also known, if the other variables constantly remained, the addition of one unit in social interaction will cause an increase of 0.192 in terms of influence in investment decision-making of retail investors and vice versa. then, every one unit increase in herding behavior will cause a decrease of 0.067 in terms of influence on retail investors' investment decisions. On another side, every one unit increase in stress may cause an increase of 0.381 related to the influence of retail investors' investment decisions. Thus, these results indicate that psychological factors, namely mood, anger, fear, and also social factors such as social interaction and stress have a positive effect on investment decisions, while herd behavior, has a detrimental impact on individual investors' investing decisions.

### **Effect of mood on investment decisions**

According to the t-value table above, the value of significance for the mood variable is 0.680, while the t-count is 0.414. The data shows that in this variable, t count < t table which has a value of 1.984, and the significance value of this variable is more than 0.05. As a result of the findings, the hypothesis is rejected, and it can be shown that, at a significance level of 0.05, mood has a negative impact on retail investor decision-making. This shows that the mood of most investors does not affect them when making investment decisions. This outcome is in line with the findings of another study (Duxbury, 2015), which found that mood has a detrimental impact on investment decisions.

### **Effect of anger on investment decisions**

According to the t-value table above, the value of significance for the anger variable is 0.048, while the t-count is 2.003. The data shows that in this variable, t count > t table which has a value of 1.984 and the significance value of this variable is less than 0.05. As a result of this research, the hypothesis is accepted, and at a significance level of 0.05, it comes with a conclusion that anger has a significant positive effect on retail investor decision-making. This shows that when most investors are angry, it affects them when making investment decisions. This result is consistent with the findings of (Lerner & Keltner, 2001), which shows that anger or rage has a favorable impact on investment decisions. This hypothesis is rejected because the majority of respondents in this study can control their mood well so that the mood does not affect them in making investment decisions.

### **Effect of fear on investment decisions**

According to the t-value table above, the value of significance for the fear variable is 0.001, while the t-count is 3.508. The data shows that in this variable, t count > t table which has a value of 1.984 and the significance value of this variable is less than 0.05. As a finding results, the hypothesis is accepted, and at a significance level of 0.05, it can be inferred, fear has a positive

impact on retail investor decision-making. This shows that most retail investors are influenced by their fear when they want to make a decision when investing. This research is in line with (Lee & Andrade, 2011) research, which found that anxiety has a favorable impact on investment decisions. It is explained in this study that while making financial decisions that are hazardous, investors feel more uncomfortable. As a result, they may opt to exit the market or take a less hazardous option.

#### **Effect of social interaction on investment decisions**

According to the t-value table above, the significance value for the variable from social factors, namely social interaction is 0.019, while the t-count is 2.392. The data shows that in this variable, t count > t table which has a value of 1.984 and the value of significance of this variable is less than 0.05. As a result of this analysis, the hypothesis is accepted, and at a significance level of 0.05, it can be inferred that social interaction has a favorable effect on retail investor decision-making. This demonstrates that the environment has an impact on most investors' investing decisions. This finding is consistent with other studies' findings (Loewenstein et al., 2001; Lucey & Dowling, 2005), which show that social interaction has a favorable impact on investing decisions.

#### **Effect of herd behavior on investment decisions**

According to the t-value table above, the value of significance for the variable from social factors, namely herd behavior (herding) is 0.009, while the t-count is -2.653. The data shows that in this variable, t count < t table which has a value of 1.984, and the value of significance of this variable is less than 0.05. The results obtained indicate that the results of t count < t table but the significance is less than 0.05. Therefore, the researcher uses the absolute value of t-count by ignoring the negative symbol which applies to the one-tailed test (One-Tailed) so that the results obtained are t count > t table and the significance value is less than 0.05. As a result of the data, the hypothesis is

accepted, and at a significance level of 0.05, it can be inferred, herding behavior has a positive impact on retail investor decision-making. This demonstrates that most retail investors follow the investing decisions of other investors or invest based on current market movements in the Indonesian stock market. This finding is in line with Wamae (2013), who found that herding behavior had a considerable favorable impact on investment decisions. Herding conduct has a favorable impact on investor decision-making in Sri Lanka, as stated by (Kengatharan, 2014).

#### **Effect of stress on investment decisions**

According to the t-value table above, the value of significance for the variable from social factors, namely a sense of stress is 0.000, while the t-count value is 5,623. The data shows that in this variable, the value of t count > t table which has a value of 1.984, and the value of significance of this variable is less than 0.05. As a result of this study, the hypothesis is accepted, and at a significance level of 0.05, it can be inferred, stress has a significant positive effect on retail investor decision-making. This demonstrates that most retail investors are affected when making investment decisions when they are anxious. This outcome is consistent with the findings of the study (Moueed & Hunjra, 2020), which show that stress has a positive influence on investing decisions.

#### **The Effect of psychological and social factors simultaneously on investment decisions**

According to the table above, the value of significance obtained is 0.000, which is less than 0.05 and the F count value is 247,995 which is greater than the F table value, which is 2.19. Thus, the data shows that the independent variables consist of psychological factors, namely mood, anger, fear, and social factors, namely social interaction, herd behavior, and stress, has a positive impact towards the dependent variable, namely investment decisions or in other words the hypotheses are accepted. Therefore, it can be concluded that this shows that psychological and social factors simultaneously or thoroughly influence retail investors on the Indonesian

stock exchange in their investment decisions.

### Research Results Discussion

Based on the results of research on the influence of psychological and social factors on investment decisions of retail investors on the Indonesian stock exchange, the responses of the respondents to the questionnaire given by the researchers generally showed positive results. In terms of the influence of psychological factors on investment decisions, Anger and Fear variables have a positive influence on investment decisions, which means that retail investors in Indonesia are affected by these two kinds of emotions when making investment decisions. However, based on available data, investors are not influenced by their mood when they want to make investment decisions. Then, in terms of social factors, investors tend to be influenced by all the indicators in this factor in making investment decisions, namely Social Interaction, Stress, and Herding. Thus, overall psychological factors as well as social factors as a whole influence the investment decisions of retail investors in Indonesia which shows that Indonesian investors have an attitude that is easily influenced from their psychological perspective and easily influenced by their social environment.

The computed coefficient of correlation ( $R = 0.969$ ) indicates that the dependent variable and the independent variable have a moderately good linear correlation. The sample correlation square coefficient between the findings and the anticipated value yields the coefficient of multiple determinants (R Square). This explains the percentage of the dependent variable explained by all the certain independent variables or the extent to which changes in the dependent variable can be explained by changes in the independent variable. Because Adjusted R Square is customized to the sum of degrees of freedom, the value is less than R Square. In this model, many determinants (R Square) coefficients were found to be 0.938. This suggests that the independent factors, mood, anger, fear, social contact, herding, and stress, may explain 93.8% of the dependent variable in this study,

namely investment decisions. In other words, the six independent variables influenced 93.8% of retail investors' investment decisions on the Indonesia Stock Exchange, while the remaining 6.2% were influenced by variables not studied. The R Square values in this study are greater than those in previous comparable works in this field; for example, the R Square values in (Lim, 2012), (Wamae, 2013), and (Qadri & Shabbir, 2014) are 0.657, 0.665, and 0.755, respectively. As a result, the R Square results are acceptable and within the scope of this study.

### CONCLUSION AND RECOMMENDATION

This study shows that the psychological factors of anger and fear have a positive effect on investor decision-making. This finding is consistent with the research Lerner & Keltner (2001) and Lee & Andrade (2011) which in both studies found a positive impact of anger and fear on investors' investment decisions. However, there is one independent variable in psychological factors that has no effect, namely the variable related to mood (mood) which is consistent with the findings of Duxbury (2015) so this shows that the mood of most investors does not affect them when making decisions in investing. In addition, this study also found that social factors consisting of social interaction variables, herding behavior, and stress have a significant or positive impact on investors' investment decisions. Thus, after being tested simultaneously or thoroughly through the F test, this study showed the results that the independent variable consisting of social factors (herd behavior, social interaction, stress) and psychological factors (fear, mood, anger) had a positive effect on the dependent variable is the investment decision of retail investors in the Indonesia Stock Exchange.

However, as with other research, this research is vulnerable to several fundamental challenges. One of the challenges is that this study has problems only entering a size of the sample of 105 respondents even though this sample size meets the requirements of the statistical method.

In addition, the data taken for this study is subjective and depends to some extent on the independent variables studied, namely mood, anger, fear, social interaction, herd behavior, and stress. Therefore, the data collected may not show the actual thoughts or feelings experienced by the individual responding. This study is expected to help investors to realize the effect of social and psychological factors on their investment decisions in the stock market so that they can make more rational decisions which will influence increasing the efficiency of the market. For future research, the researcher recommends a larger sample size of investors and expanded to provide more accurate results which can describe all phenomena of the investor decision-making in retail in the Indonesian stock market and to confirm the findings of this study.

## REFERENCES

- Aren, S., & Akgüneş, A. O. (2018). Duyguların yatırım kararı üzerine etkisinin yapısal eşitlik modeli ile değerlendirilmesi. *International Journal of Academic Value Studies (Javstudies Javs)*, 4(19), 363-371.
- Asad, H., Khan, A. and Faiz, R. (2018). Behavioral Biases Across the Stock Market Investors. *Pakistan Economic and Social Review*, 56(1), 185-209..
- Bollen, J., Mao, H., & Zeng, X. (2011). Twitter Mood Predicts the Stock Market. *Journal of computational science*, 2(1), 1-8.
- Cao, H. H., Han, B., Hirshleifer, D., & Zhang, H. H. (2009). Fear of the Unknown: Familiarity and Economic Decisions. *Review of Finance*, 15(1), 173–206.
- Chandra, A. (2008, December). Decision Making in the Stock Market: Incorporating Psychology with Finance. In *National Conference on Forecasting Financial Markets of India*.
- Davidson, R. J., Jackson, D. C., & Kalin, N. H. (2000). Emotion, Plasticity, Context, and Regulation: Perspectives from Affective Neuroscience. *Psychological Bulletin*, 126(6), 890–909.
- Duran, A., & Caginalp, G. (2007). Overreaction Diamonds: Precursors and Aftershocks for Significant Price Changes. *Quantitative Finance*, 7(3), 321-342..
- Duxbury, D. (2015). Behavioral Finance: Insights from Experiments I: Theory and Financial Markets. *Review of Behavioral Finance*, 7(1), 78–96.
- Ellsworth, P. C., & Scherer, K. R. (2003). *Appraisal Processes in Emotion*. Oxford University Press.
- Gambetti, E., & Giusberti, F. (2012). The Effect of Anger and Anxiety Traits on Investment Decisions. *Journal Of Economic Psychology*, 33(6), 1059–1069.
- Heise, A. (2020). *The Socioeconomics of Economics: Essays on the Construction of the Economic Discipline and Its Critique*, LIT Verlag Münster.
- Moueed, A., & Hunjra, A. I. (2020). Use Anger to Guide Your Stock Market Decision-Making: Results from Pakistan. *Cogent Economics & Finance*, 8(1), 1733279.
- Hwang, S., & Salmon, M. (2004). Market Stress and Herding. *Journal of Empirical Finance*, 11(4), 585-616.
- Kahneman, D., & Tversky, A. (2013). Prospect Theory: An Analysis of Decision Under Risk. In *Handbook of the fundamentals of financial decision making: Part I* (pp. 99-127).
- Katkin, E. S., Wiens, S., & Öhman, A. (2001). Non-conscious Fear Conditioning, Visceral Perception, and the Development of Gut Feelings. *Psychological Science*, 12(5), 366-370.
- Kengatharan, L., & Kengatharan, N. (2014). The Influence of Behavioral Factors in Making Investment Decisions and Performance: Study on Investors of Colombo Stock Exchange, Sri Lanka. *Asian Journal of Finance & Accounting*, 6(1), 1.
- Kligyte, V., Connelly, S., Thiel, C., & Devenport, L. (2013). The Influence of Anger, Fear, and Emotion Regulation on Ethical Decision Making. *Human Performance*, 26(4), 297–326.
- Kumar, S., & Goyal, N. (2015). Behavioural Biases in Investment Decision Making—a Systematic Literature Review. *Qualitative Research in financial markets*.
- Lee, C. J., & Andrade, E. B. (2011). Fear, Social Projection, and Financial Decision Making. *Journal of Marketing Research*, 48(Special Issue), S121–S129.
- Lerner, J. S., & Keltner, D. (2001). Fear, Anger and Risk. *Journal of Personality and Social Psychology*, 81(1), 146–159.
- Lestari, W. dan W. K. (2014). Perilaku Investor pada Pasar Modal di Lampung. *Jurnal Ilmiah ESAI*, 8 (1), 1–14.

- Lim, L. C. (2017). The Relationship between Psychological Biases and the Decision Making of Investor in Malaysian Share Market. *Unpublished Paper International Conference on Management, Economics & Finance (ICMEF 2012) Proceeding*.
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as Feelings. *Psychological bulletin*, 127(2), 267.
- Lucey, B. M., & Dowling, M. (2005). The Role of Feelings in Investor Decision-Making. *Journal of economic surveys*, 19(2), 211-237.
- Moueed, A., Hunjra, A. I., Asghar, M. U., & Raza, B. (2015). Role of Psychological and Social Factors on Investment Decision of Individual Investors in Islamabad Stock Market. *Sci. Int. (Lahore)*, 27(5), 4697-4706.
- Moueed, A., & Hunjra, A. I. (2020). Use Anger to Guide your Stock Market Decision-Making: Results from Pakistan. *Cogent Economics & Finance*, 8(1), 1733279.
- Mitchell, M. S., & Ambrose, M. L. (2012). Employees' Behavioral Reactions to Supervisor Aggression: an Examination of Individual and Situational Factors. *Journal of Applied Psychology*, 97(6), 1148-1170.
- Mittal, S. K. (2019). Impact of Corporate Governance Disclosure Policy on Firm Performance on Sensex listed 30 Companies. *Journal of Commerce and Accounting Research*, 8(2), 20.
- Nofsinger, J. R. (2005). Social Mood and Financial Economics. *The Journal of Behavioral Finance*, 6(3), 144-160.
- Nuñez, N., Schweitzer, K., Chai, C. A., & Myers, B. (2015). Negative Emotions Felt During Trial: the Effect of Fear, Anger, and Sadness on Juror Decision Making. *Applied Cognitive Psychology*, 29(2), 200-209.
- Oprean, C. (2014). Effects of Behavioural Factors on Human Financial Decisions. *Procedia economics and finance*, 16, 458-463.
- Prechter, R. R. (2016). *The Socionomic Theory of Finance*. Gainesville: Socionomics Institute Press.
- Qadri, S. U., & Shabbir, M. (2014). An Empirical Study of Overconfidence and Illusion of Control Biases, Impact On Investor's Decision Making: an Evidence from ISE. *European Journal of Business and Management*, 6(14), 38-44.
- Rafay, A., Farid, S. (2018). Shariah Supervisory Board Report (SSBR) in Islamic banks. *International Journal of Islamic and Middle Eastern Finance and Management*, 11(2), 277-296.
- Rao, T., & Srivastava, S. (2014). Twitter Sentiment Analysis: How to Hedge your Bets in the Stock Markets. In *State of the art applications of social network analysis* (pp. 227-247). Springer, Cham.
- Parveen, S., Satti, Z. W., Subhan, Q. A., & Jamil, S. (2020). Exploring Market Overreaction, Investors' Sentiments and Investment Decisions in an Emerging Stock Market. *Borsa Istanbul Review*, 20(3), 224-235.
- Ruan, Y., Durrezi, A., & Alfantoukh, L. (2018). Using Twitter Trust Network for Stock Market Analysis. *Knowledge-Based Systems*, 145, 207-218.
- Sattar, M. A., Toseef, M., & Sattar, M. F. (2020). Behavioral Finance Biases in Investment Decision Making. *International Journal of Accounting, Finance and Risk Management*, 5(2), 69.
- Selden, G. (2012). *The Psychology of the Stock Market*: Cosimo Classics Economics.
- Sharma, K. (2019). Investor's Herding: A Study of the National Stock Exchange of India. *International Journal of Financial Management*, 9(3), 36-40.
- Shiller, R. J. (2003). From Efficient Markets Theory to Behavioral Finance. *Journal of economic perspectives*, 17(1), 83-104.
- Shiller, R. J. (2000). Measuring Bubble Expectations and Investor Confidence. *The Journal of Psychology and Financial Markets*, 1(1), 49-60.
- Small, D. A., & Lerner, J. S. (2008). Emotional Policy: Personal Sadness and Anger Shape Judgments About a Welfare Case. *Political Psychology*, 29(2), 149-168.
- Szasz, P. L., Hofmann, S. G., Heilman, R. M., & Curtiss, J. (2016). Effect of Regulating Anger and Sadness on Decision-Making. *Cognitive Behaviour Therapy*, 45(6), 479-495.
- Tabassum, Riaz, & Haroon, I. (2015). Impact of Overconfidence, Illusion of Control, Self-Control and Optimism Bias on Investor Decision Making. *Evidence from Developing Markets. Research Journal of Finance and Accounting*, 6(11), 110-115.
- Thaler, R. (1980). Toward a Positive Theory of Consumer Choice. *Journal of economic behavior & organization*, 1(1), 39-60.
- Tiedens, L. Z., & Linton, S. (2001). Judgment Under Emotional Certainty and Uncertainty: The Effects of Specific Emotions on Information Processing. *Journal of Personality & Social Psychology*, 81(6), 973-988.

- Toma, F. M. (2015). Behavioral Biases of the Investment Decisions of Romanian Investors on The Bucharest Stock Exchange. *Procedia Economics and Finance*, 32, 200-207.
- Trifan, R. (2020). Behavioural Biases and Stock Market Reaction: Evidence from Six Post-Communist Countries. *Ekonomický časopis*, 68(08), 811-826.
- Tuyon, J., & Ahmad, Z. (2016). Behavioural Finance Perspectives on Malaysian stock Market Efficiency. *Borsa Istanbul Review*, 16(1), 43-61.
- Useem, M., Cook, J., & Sutton, L. (2005). Developing Leaders for Decision Making Under Stress: Wildland Firefighters in The South Canyon Fire and Its Aftermath. *Academy of Management Learning and Education*, 4(4), 461-485.
- Wamae, J. N. (2013). Behavioural Factors Influencing Investment Decision in Stock Market: A Survey of Investment Banks in Kenya. *International Journal of Social Sciences and Entrepreneurship*, 1(6), 68-83.
- Ziembinski, B. (2015, May). Social Mood Revealed. In *CEUR Workshop Proceedings* (Vol. 1351, pp. 35-50).