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Sentiment and Stock Returns of Individual Investors at the Nairobi Securities Exchange

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Abstract

Sentiment is a subject that has intrigued researchers lately because asset prices seem to follow a different trajectory from the one predicted by traditional finance models. The trading behaviour does not appear to be based on asset fundamentals but on subjective criteria, which is contrary to classical finance arguments supporting investor rationality in decision making. Therefore, the objective of this study was to examine the impact of investor sentiment on stock returns of individual investors at the Nairobi Securities Exchange. The study adopted a positivistic approach where primary data was collected to test the relationship of the study variables. In this research investor sentiment was categorized into three groups; joy-optimism for high moods, neutral-objective for rationality and sad-pessimism for low moods. Stock returns which estimated performance were measured using Sharpe ratio. 270 questionnaires were analysed which represented a 70.3% response rate. A correlational descriptive survey was conducted to examine the relationship between investor sentiment and Sharpe ratio. Spearman's correlation was used to estimate the correlation between investor sentiment and Sharpe ratio. Stepwise regression and ANOVA were applied to analyse the relationship among the variables. The study found that investor sentiment had no influence on Sharpe ratio. Thus, from the findings the study concluded that relying on investor sentiment to make decisions may not yield optimal decisions. These insights would be beneficial to practitioners, investors, policy makers and all market players at large. The knowledge about investor sentiments and different aspects that relate to trading can improve investment decisions and overall performance of the market.

Keywords: *Investor Sentiment, Stock Returns, Sharpe Ratio, Individual Investors*

Introduction

Investor sentiment has captured the interest of finance researchers because of the belief that it has an influence on the outcome of trading. This however is yet to be proven without dispute because from the investigations that have been conducted so far, literature is not unanimous in its conclusion about the relationship between investor sentiment and stock returns. This area of study is still a relatively new field of research and more knowledge about it can be acquired because it is subjective and intangible phenomenon. The study of investor sentiment is complicated by the fact that it is intangible and therefore the measurement cannot be done directly but only through proxies. The identification of proxies poses a challenge since they have to be as close as possible to the phenomenon which is being measured. This

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implies that the prediction of stock returns should consider the subjectivity of the investor and consequently traditional models of finance may not be applicable with such conditions and terms (Shefrin, 2008).

The traditional models of finance such as Capital Asset Pricing Model (CAPM), Arbitrage Pricing Model (APT) or Markowitz Model are based on assumptions such as the rationality of investors, multiple investment options and availability of information about assets (Smales, 2017). These traditional models are rendered irrelevant when investor sentiment, which is subjective in nature, is brought into the model as a predictor of asset prices and future cash flows. Hence more versatile prediction models are needed that factor in investor irrationality and for this reason behavioural finance was developed to fill this gap. Behavioural finance is having not been exhaustively investigated especially locally since researches on the influence of investor sentiment on stock returns have mostly been carried out in the more developed markets in the world. The studies conducted locally were mainly geared towards examining the effect of behavioural biases on stock returns at the Nairobi Securities Exchange (NSE).

Investor sentiment can be defined as the expectation of future cash flow that is not based on objective information (Baker & Wurgler, 2007). The investor in this case does not refer to any fundamentals when coming up with their expectations but relies on instinct and emotions. Sentiment has been argued to be the beliefs or opinions of investors about assets which obliterates objective data (Zhang, 2008). These beliefs, it is argued, can drive prices of an asset upwards or downwards moving them away from the objective value. This argument could explain the sudden change of prices that is witnessed in the markets and the reason why investor sentiment should be considered in decision making (Barberis et al., 2016). However, relying on investor sentiment may not always result in optimal decisions hence further investigation of this relationship is necessary as it would be advantageous to the market and its participants. Thus the question arises whether investor sentiment is related to stock returns of individual investors at the (NSE).

Research Problem

Investor sentiment is believed to have the potential of explaining the sudden changes in asset prices in the market, occurrences which traditional finance is yet to explain (Verma & Soydemir, 2012). Thus it is of interest to researchers to investigate whether investor sentiment has any influence on asset prices. Investor sentiment is a concept that is relatively new in finance and research in this area has not been easy because it is not directly observable. Investor sentiment is observed indirectly through the action and behaviour of

the subject being investigated. These observable actions can be used as proxies to estimate sentiment and to determine whether an investor is optimistic, pessimistic or neutral. The relationship between sentiment and stock returns is yet to be defined because the outcome that is documented in literature is varied. Therefore, further investigation is needed to fill the conceptual gap and reach a consensus on the relationship between investor sentiment and stock returns. Moreover, literature review showed that many types of proxies have been applied to study investor sentiment and this could have contributed to the varied outcomes. Hence it means that there is no unanimity among researchers on the proxy that is most representative of investor sentiment, thus, further research to reach a consensus is needed (Sun et al. 2021).

The review of literature revealed a methodological gap because several of these proxies and indices of investor sentiment were very varied and further could only be applied to the market where the study was conducted. Smales (2017) investigated the effect of fear on investment in Chicago, USA using Volatility Index (VIX) and found that they were negatively related. VIX is a measure that is calculated by the Chicago Board of Exchange (CBOE) therefore it is not applicable to other countries. Hu and Wang (2013) used Buy-Sell-Index(BSI) to estimate investor sentiment in China and found a negative relationship between noise trading and stock returns. In the Kenyan market the data needed to compute a BSI at NSE may not be easily accessible therefore another estimate for investor sentiment is necessary. Thus a local investor sentiment index for the NSE is necessary in order to determine its influence on stock returns. Qadan (2019) estimated the relationship between idiosyncratic volatility and returns using Fama and French (2015) five factor model and found that they were negatively related. The Fama and French (2015) model includes rationality assumptions and therefore a more suitable index for estimating investor sentiment would give better results and insights.

Majority of the research on the relationship between investor sentiment and stock returns has been done in the mature markets which exhibited a contextual gap. For example, Wenzhao, Su and Duxbury (2021) conducted a study on investor sentiment and stock returns in 50 global markets. The study divided the markets into two groups; developed and underdeveloped exchanges. Investor sentiment was approximated using Consumer Confidence Index (CCI) and it was found to be negatively related to returns. It is difficult to generalize these results since it involved markets at different stages of development. Fang et al. (2021) established that in Taiwan negative emotions had a bigger impact on returns than positive feelings. The study used fintech tools and Webcrawler to survey the mood in internet texts messages. Lansing, LeRoy

and Ma (2022) studied the effect of irrationality on abnormal returns using a consumption pricing model and the Federal Reserve Bank Treasury Bill yield curve. The study established that irrationality was not related to abnormal returns during certain periods. However, this did not hold under changed circumstances in San Francisco when the pandemic struck. Moreover, the outcome of this study is localized to the San Francisco. The NSE is still growing and hence many of the studies from overseas may not be applicable because of the advancements of the markets where the studies were carried out. Furthermore, the profile and cultural setting of the investors in the mature markets developing markets. Therefore, a study conducted within the NSE would be more beneficial to the market and its participants.

The review of literature revealed a theoretical gap in there being no studies conducted at the NSE on investor sentiment as most of them investigated the effect of behavioural biases on stock returns. The studies focussed on behavioural biases such as anchoring, herding, mental accounting, framing and their effect on performance. Moreover, these studies did not have a consensus on the relationship between the variables. For example, Bitok et al. (2010) with data from 2001 to 2008 examined the determinants of investor confidence at NSE. The study found that events and political activities affected stock prices negatively because the volatile environment led to reduced trading. Aroni et al. (2014) studied the effect of dividend pay-out on investment decisions and established that the two variables were positively related since investors choose stocks that were known to pay dividends to investors. Nyamute (2015) investigated the influence of investor behaviour on performance at the NSE and found that there was a negative relationship between the variables.

Apart from the varied outcome, the cited studies were carried out some years ago thus a more recent research is necessary. The market scene and the investor profile has evolved over time and hence the results of these earlier studies may not be applicable in the present circumstances. For instance, growth in technology has increased investor sophistication and new products have been launched such as derivatives, day trading and securities lending. The results obtained in earlier studies would be different if conducted under the current market environment. Therefore, a study on the relationship between investor sentiment and stock returns would contribute new insights to the existing body of knowledge.

Research Objective

The objective of this study was to establish the relationship between sentiment and stock returns of individual investors at the Nairobi Securities Exchange.

Literature Review

This study was anchored on Prospect theory which argues the case for irrationality of investors who do not rely on objective data to make decisions. Prospect theory argues that investors rely on sentiments and instinct to guide investment decisions. Further the theory attests that during periods of decline, investors hold on to falling assets while they should dispose of them and they sell rising stocks instead of holding on to them until they start to decline (Kahneman & Tversky, 1974). The irrationality of investors cannot be explained by classical models which assume that they are motivated by maximizing gains and avoiding losses. In prospect theory, decisions are determined by fear of making losses rather than by the desire for profits. The investor holds assets that are falling in price due to fear of locking losses. However, the investor risks higher losses if the asset declines further. In addition, the investor acts irrationally by selling soaring assets in order to lock in gains but ends up giving up a portion of the profits if the asset prices continue rising. The rational decision would be for the investor to let the asset grow and only sell it when the prices start to decline.

Investor irrationality is a relatively new aspect in the field of finance and researchers have been trying to investigate whether it can be the answer to some of the realities in the market that cannot be explained by classical models. Bitok (2010) found that at the NSE investor confidence was affected by announcements and events in the market since the asset prices varied each time they occurred. Aroni (2014) established that investor decisions were influenced by dividend pay-outs and so they invested in assets that were known to pay. Nyamute (2015) concluded that portfolio performance was significantly related to investor confidence at NSE. The aforementioned studies were conducted at the NSE however, the findings may not be applicable to the current market landscape due to passage of time and evolution of the investor profile. In addition, they investigated different aspects of irrationality but not investor sentiments of joy-optimism, objective-neutral or sad-pessimism.

Islam, Mumtaz and Hanif (2020) relying on heuristics theory established that technical and fundamental fluctuations in the Pakistan market were significantly influenced by behavioural biases like mental

accounting and decision framework. However, anchoring was not related to the fluctuations. Wenzhao, Su and Duxbury (2021) used Consumer Confidence Index (CCI) to estimate investor sentiment in 50 global markets which were divided into developed and developing markets. The study found that investor sentiment had more impact on growing markets compared to the ones that are more developed. Further, the study established that investors who relied on sentiments to make decisions obtained suboptimal returns. Nevertheless, an index based on investment data for each country would have been more suitable than one based on consumption like CCI. Fang et al. (2021) using fintech tools in Taiwan demonstrated that negative emotions had a bigger impact on returns than positive ones. Moreover, the investigation showed that optimism was more related to volatility than objectivity and pessimism which affected price fluctuation more significantly than neutral emotions.

Lansing, LeRoy and Ma (2022) applied the Treasury Bill index in San Francisco to establish that there was no relationship between investor sentiment and abnormally low returns during the COVID-19 pandemic. The research showed that the predictability of abnormal returns was dependent on the period. Therefore, this model could not forecast future cash flows during the Covid-19 pandemic. The pandemic affected all aspects of life including gathering of research data and the financial markets, performance and thus, the finding of this study would need to be re-tested or adjusted for variations during ordinary market operating periods. Moreover, though the preceding studies examined investor sentiment, they were conducted in markets that are more advanced than NSE. The cultural setting of the countries and markets where the studies were done is different from Kenya which implies that the outcomes of the study may not be generalizable to the NSE. Thus, the results of these investigations are not generalizable to the NSE. Thus, research conducted within the local setting of the NSE on the relationship between investor sentiment and stock returns is necessary as it would be beneficial as it would be specific to the local market.

Conceptual Framework

The conceptual framework shows in diagram form the relationship between the study variables. Investor sentiment is the independent variable and it was operationalized into joy-optimism, neutral-objective and sad-pessimism following the study by Fang et al. (2021). The dependent variable in the study was stock returns of individual investors and Sharpe ratio was used as the estimate. Sharpe ratio is considered to be versatile in the estimation of performance (Nyamute, 2016). The relationship between these two variables is reflected in Figure 1.1.

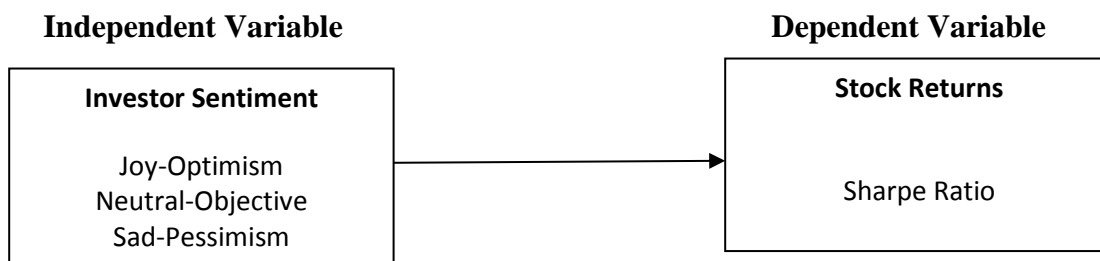


Fig. 1.1 Conceptual Framework

The null hypothesis of the study was as follows:

H₁: There is no significant relationship between investor sentiment and stock returns of individual investors at the Nairobi Securities Exchange.

Research Methodology

A research philosophy determines the orientation that an investigation undertakes. The philosophy of a study guides how the data collection and analysis process is done so as to get new insights about a phenomenon. There are different types of philosophies and these include epistemology or positivism which aims at seeking objective and quantifiable knowledge about reality. Ontology is another research philosophy which seeks to find out what is believed about a phenomenon. This approach is also known as phenomenology and it entails obtaining the beliefs and opinions on observations made about a reality or phenomenon. In phenomenology data is collected mainly through interviews. The researcher works towards drawing a common theme and theory from the interviews conducted during the study. However, for this study phenomenology was not appropriate as it was not aimed at developing a theory about a phenomenon. Therefore, the current study selected a positivistic approach because the objective of the research was to establish the influence of investor sentiment on stock returns of individuals at the NSE. This orientation includes the collection of data using an appropriate survey instrument and at the same time ensures that the researcher does not have any influence on the participants. Further, the study was a correlational descriptive survey since it was investigating a relationship using data collected on the research variables. The data on the research variables should be collected using an appropriate survey instrument (Blumberg, Cooper & Schindler, 2005).

The survey instrument used in this study was a questionnaire which was deemed appropriate for the research given the positivistic orientation. Reliability occurs when the same results are obtained even if the study is

repeated several times. Validity on the other hand occurs when the instrument actually measures what was intended by the study. Cronbach's alpha was .72 which meant that the questionnaire was reliable. A pilot study was conducted on 20 individual investors and the recommendations made on the questionnaire were incorporated. The questionnaire was divided into three sections which related to the research variables namely; investor sentiment, stocks data and investor demographics. A questionnaire was used to collect data from a sample of 400 individual investors selected randomly through stock brokerage firms at the NSE. This sample size number is slightly higher than the statistically obtained figure of 384, to cater for non-response. From the sample only 270 questionnaires were analysable which represents a response rate of 70.3%. Investor stocks data was obtained for the period 2016 to 2020. Secondary data such as the 91-day Treasury Bill rates for the research period were used to compute the risk free rate and they were obtained from Central Bank of Kenya (CBK). Asset prices and dividends paid out were obtained from (NSE) (Sekaran & Bougie, 2016).

Operationalization of Investor Sentiment

Operationalization of investor sentiment was as presented in Table 1.1 below. The investor sentiment indicators are; sources of investment information, view of financial statements, frequency of Annual General Meetings attendance, stock expectation, frequency of trading at the exchange, handling declining and rising stock, stock market performance, sufficiency of stock information provision at NSE, stability of macroeconomic environment and stability of political environment (Sun et al.,2021).

The frequency of referring to the indicators was a reflection of the intensity of the emotion such that the higher the number assigned to an indicator the higher the level of emotion and the lower the figure the lower the sentiment. Consequently, investor sentiment was divided into three categories the first being joy-optimism which took the higher numbers, the second being neutral-objective which had the average figure, and the third was sad-pessimism which had the lower digits. These categories mirror the study by Fang et al. (2021).

Table Error! No text of specified style in document..1: Operationalization of Investor Sentiment

Sentiment	Indicator	Operational Definition	Scale	Questionnaire
High (Joy, Optimism)	Positive beliefs about stocks, the economy, market and political environment. They get information from friends and rumours, relies on past experience,	Happy about the future Increased frequency in trading	Interval	Part B,Q11-Q21
Neutral (Objective)	Maximize profits, rely on logic by consulting financial consultants, analyses financial reports, review of annual reports, attending AGM	Not influenced by feelings but figures and facts	Interval	Part B Q11-Q21
Low (Sadness, pessimism)	Negative about stocks market, economy and politics. Source of information is rumours and family, follows experienced investors	Sad and low about the future Reduced trading activity in the market Fear of losses	Interval	Part B Q11-Q21

Operationalization of Stock Returns

Stock returns is the dependent variable and is estimated using Sharpe ratio. The advantage of this measure is that Sharpe ratio uses the total risk that affects a portfolio. In addition, Sharpe ratio adjusts for varying risk free rates occurring during the period of investment. Sharpe ratio has the following inputs; the portfolio returns, standard deviation and the risk free rate. The portfolio returns were computed using stocks data, market price and dividends. The 91-day Treasury bill rate was used as the risk free rate because it has the lowest probability of default compared to the option of 182 or 364 day bills. Table 1.2 below shows the operationalization of stock returns measured using Sharpe ratio. The difference between portfolio returns and 91-day risk free rate was divided by the standard deviation to get the Sharpe ratio. The standard deviation is the risk of the portfolio, which means that Sharpe ratio does not make the assumption that a portfolio is diversified. Sharpe ratio allows for diversifiable risk to be included in the computation which makes it a good tool for measuring performance (Nyamute et al., 2015).

Table Error! No text of specified style in document..2: Operationalization of Stock returns

Sharpe Ratio	Indicator	Operational Definition	Scale	Questionnaire/D ata
Risk free rate	Minimum return, undiversifiable risk	This is the rate of return of a risk free asset	Ratio	Secondary data
Portfolio Return	Compensation for risk borne	This is the gain or loss of a portfolio	Ratio	Secondary data and Part D
Standard deviation of the Portfolio	Total Risk of Portfolio	The is the deviation from expected returns	Ratio	Part D

Results and Discussions

Descriptive Statistics

Descriptive statistics give an idea about of the data before further investigation is carried out. The results of these statistics can help determine the model that should be adopted for analysis. Descriptive statistics include measures of central tendency, variation and symmetrical estimation. The descriptive statistics of the first category of investor sentiment which is joy-optimism are as depicted in Table 1.3 below. The investors were asked to rate the frequencies of relying on information from the listed sources and past experience got the highest mean of 2.59. This meant that investors relied on the past experience more than other sources of information showing that they were optimistic. The standard deviation of past experience was 1.11, with skewness to the left of -.195, it was platykurtic with a kurtosis of -.097 and the coefficient of variation was .429. The least relied on source of information was the AGM which implied that the investors did not trust the reports delivered in those meetings. Thus AGM had a mean of 1.51, standard deviation of 1.278, skewness to the right of .535, the kurtosis was -.371 which meant it was platykurtic and the coefficient of variation was .846. In general, the standard deviation of all the indicators was less than two and the coefficient of variation was less than one which means that the data was consistent and close to the mean.

Table Error! No text of specified style in document..3: Joy-Optimism Descriptive Statistics

Joy Optimism	N	Mean	SD	Skewness	Kurtosis	CV
Information source Family + Friends	270	1.93	1.014	.085	-.53	.525
Information source Financial Consultant	270	2.18	1.114	-.039	-.374	.511
Information source Past Experience	270	2.59	1.11	-.195	-.097	.429
Information source Financial Statement	270	2.36	1.322	-.138	-.646	.560
Information source Experienced Investor	270	2.34	1.202	.099	-.472	.514
Information source Newspapers, Tweeter, Facebook TV News	270	2.24	1.213	-.063	-.087	.542
Information source Investment Report	270	2.07	1.345	.118	-.835	.650
Information source AGM	270	1.51	1.278	.535	-.371	.846
Valid N	270					

N=Number of observations, SD=Standard Deviation, CV=Coefficient of variation

Table 1.4 below shows the descriptive statistics of neutral-objective. The average of the indicators was the proxy for further analysis. The indicator trading once a year which was under neutral-objective obtained the highest mean of 4.85 and this meant that that most participants traded once a year meaning they were not overly active. The standard deviation of frequency of trading was 1.276 and it was skewed to the left by -1.136, it was also platykurtic with a kurtosis of .785 and the coefficient of variation was .263. The indicator with the lowest mean of 2.85 was complication of financial statements which meant that the participants were neutral about the statements being complicated. The standard deviation was 1.389, it was skewed to the right at .307, it was platykurtic with -1.277 and the coefficient of variation was .487. Majority of the means of the indicators were around 3 which means that they were neutral about the questions they were asked. The standard deviation and coefficient of variation of all indicators were low indicating that there was consistency of data.

Table Error! No text of specified style in document..4: Neutral-Objective Descriptive Statistics

Neutral-Objective	N	Mean	SD	Skewness	Kurtosis	CV
Complication of financial statements	270	2.85	1.389	.207	-1.277	.487
AGM attendance	270	3.94	1.127	-.957	-.007	.286
High stock performance expectation	270	3.05	1.271	-.222	-1.045	.417
Moderate stock performance expectation	270	3.27	0.99	-.596	-.246	.303
Low stock performance expectation	270	2.93	1.223	.277	-.896	.417
Negative stock performance expectation	270	2.94	1.467	.174	-1.378	.499
Frequency of trading at NSE	270	4.85	1.276	-1.136	.785	.263
Valid N	270					

N=Number of observations, SD=Standard Deviation, CV=Coefficient of variation

Table 1.5 below shows the descriptive statistics of sad-pessimism. Stock market performance being average got the highest mean of 3.17, standard deviation of 1.037, left skewness of -.319 and kurtosis of -.632. Stability of political environment got the lowest mean of .81 which meant that the investors were pessimistic about the stability of the political environment. The standard deviation was .852, the data was skewed to the right with .699, the kurtosis was -.423 which was platykurtic and the coefficient of variation was 1.052. There was consistency in the data since the CV and standard deviation were low.

Table Error! No text of specified style in document..5: Sad-Pessimism Descriptive Statistics

Sad-Pessimism	N	Mean	SD	Skewness	Kurtosis	CV
Stock prices are declining	270	1.51	.887	-.28	-.707	.587
Stock prices are rising	270	1.56	.773	-.114	-.348	.496
Stock market performance- declining	270	2.89	1.264	.037	-1.117	.437
Stock market performance- average	270	3.17	1.037	-.319	-.632	.327
Stock market performance –good	270	3.09	1.283	.028	-1.085	.415
Stock information provision at NSE	270	.71	.847	.803	-.526	1.193
Stability of economic environment	270	.94	.888	.606	-.483	.945
Stability of political environment	270	.81	.852	.699	-.453	1.052
Valid N	270					

N=Number of observations, SD=Standard Deviation, CV=Coefficient of variation

Diagnostic Tests

Diagnostic tests are recommended to assess whether the data meets the conditions for carrying out a regression. If these conditions are not met, then there is the risk of errors occurring in the analysis and wrong estimations can be made (Onsomu, 2018). Normality was tested using Shapiro-Wilk test and the outcome of the test was Sharpe ratio (W-stat =.518, $p < .01$), investor sentiment (W-stat=.988, $p < .01$) which meant that the results were significant. Thus, since Shapiro-Wilk test is significant it means that the data was not normally distributed. Therefore, the correlation test was conducted using Spearman's rank test since it has a normality assumption. Breusch-Pagan and White test were used to measure homoscedasticity and the outcome was as follows; Breusch-Pagan was (LM stat=.358, $p > .05$) and (F=.356, $p > .05$) while White Test was (LM stat=.556, $p > .05$) and (F=.275, $p > .05$). The null hypothesis that the data had heteroscedasticity was rejected since the test results were not significant and hence the data had homoscedasticity. It further means that the error term had no relationship with the dependent variable.

In addition to the above tests, autocorrelation was tested to investigate the occurrence of the error term predicting itself it was measured using Durbin-Watson. The values of Durbin-Watson lie between 0 and 4 and autocorrelation exists when the outcome of the test is close to 0 or to 4. However, it does not occur when the outcome lies within 1.5 to 3 (Wooldridge, 2010). The results of Durbin-Watson test in this study was 1.522 which meant that there was no autocorrelation. The ANOVA results to test linearity were as follows; F statistics was (F=.946, $p > .05$) implying that they were not significant and thus the predictor had no effect on the dependent variable thus there was no linearity in the data. Variance Inflation Factor (VIF) was used to test collinearity which occurs when VIF is higher than 10. If VIF is high one of the correlated variables should be dropped in order to be able to identify the term that is responsible for the change in the dependent variable (O'Brien, 2007). The outcome of conducting this test in the current study was joy-optimism VIF=1.566, neutral-objective VIF=1.149 and sad-optimism VIF= 1.455. Therefore, multicollinearity did not exist among the study variables.

Correlation Analysis

Spearman's rank coefficient does not make a normality assumption and for this reason it was applied in conducting the correlation analysis between investor sentiment and Sharpe ratio because they were not symmetrically distributed. Table 1.6 below depicts the correlation analysis results of the two variables investor sentiment and Sharpe ratio. The table shows that Sharpe ratio had a weak, positive and significant

relationship with sad-pessimism ($r=.142, p < .05$). Joy-optimism and neutral-objective had a weak, negative and significant correlation ($r=-.347, p < .01$). Joy-optimism and sad-pessimism had a weak, positive and significant relationship ($r=.457, p < .01$). Neutral-objective and sad-pessimism had a weak, negative and significant correlation ($r=-.256, p < .01$).

Table Error! No text of specified style in document..6: Correlation between Investor Sentiment and Sharpe Ratio

Spearman's rho	Sharpe Ratio	Joy-Optimism	Neutral-Objective	Sad-Pessimism
Sharpe Ratio	1.000	0.001	-0.078	.142*
Joy-Optimism		1.000	-.347**	.457**
Neutral-Objective			1.000	-.256**
Sad-Pessimism				1.000

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).
 N=270

Hypothesis Testing and Discussion

The hypothesis of this study stated that there was no significant relationship between investor sentiment and stock returns of individual investors at the Nairobi Securities Exchange. The outcome of the hypothesis tests is shown in Table 1.7 below.

H₁: There is no significant relationship between investor sentiment and stock returns of individual investors at the NSE.

$$SR = \beta_0 + \beta_1 IS + \varepsilon$$

Where;

SR is Stock returns,

IS is the composite of investor sentiment,

β_0 is the constant or intercept,

β_1 is the regression coefficient and

ε is the error term of unexplained variations.

Stepwise regression was adopted by the study to establish which variables make a difference in the relationship between investor sentiment and Sharpe ratio. The statistical programme R was used to conduct this analysis. Table 1.7 shows that $\bar{R}^2 = .001$ meaning that investor sentiment could only explain 0.1% of the change in Sharpe ratio which could mean that other factors not included in the model such as the panic due to the pandemic may have impacted the model. The outcome of ANOVA shows that ($F=.946, p > .05$) implying that the model was not significant and therefore it cannot be used to predict stock returns of individual investors. The table further shows that the outcome of the coefficient test was; investor sentiment ($\beta_1=-.296, p > .05$). The coefficients results were not significant since $p > .05$, hence, the study failed to reject the null hypothesis that there is no relationship between investor sentiment and Sharpe ratio.

Table Error! No text of specified style in document..7: Regression between Investor Sentiment and Sharpe Ratio

	Model ^a
Constant	-1.819(.126)
Joy-Optimism	-.296(.150)
Neutral-Objective	.007(.979)
Sad-Pessimism	.301(.159)
F	.946(.419)
\bar{R}^2	-.001

p-value in (parenthesis)

a. Predictors: (Constant), Joy_Optimism, Neutral_Objective , Sad_Pessimism.

b. Dependent Variable: Sharpe Ratio

The research had hypothesized that there was no significant relationship between investor sentiment and stock returns. The investigation was anchored on prospect theory which argues that investors are irrational in making investment decisions. The most relied on source of information was past experience which obtained the highest mean of 2.59 in Table 1.1. Majority of investors were neutral and objective since they traded only once a year as evidenced by the high mean of 4.85 as depicted in Table 1.2. Investors expected only an average stock performance as presented in Table 1.3 by the high mean of 3.17 compared to the other categories. The ANOVA and coefficient tests results were not significant. Thus the study failed to

reject the null hypothesis that the relationship between investor sentiment and Sharpe ratio was not significant. This finding could be explained by the disruption caused by the pandemic, which made investors and stocks prices follow unusual trends and which ultimately led to the closure of the bourse. The political climate in the country was also volatile and this too had its own negative impact on trading. Furthermore, Sharpe ratio was computed using both secondary data which is objective and fixed and primary data from investors who are subjective and changeable depending on what they are going through at a particular moment. At the time when the survey was being conducted the investors were going through the effects of COVID-19 and political uncertainty, which are occurrences that caused unprecedented fear and despair especially in the stock markets. The study was conducted during this difficult period for trading which culminated in the closure of the exchange for a long while and in big losses (Himanshu, Mushir, & Suryavanshi, 2021).

Conclusions and Recommendations

The current study contributed to knowledge by dividing sentiment into three indicators joy-optimism, neutral-objective and sad-pessimism. This has not been done before at the NSE since most of the researches that have been conducted locally have been on behavioral biases. This study demonstrated that investor sentiment had no influence on stock returns. Therefore, the investor should be aware that relying on sentiments may not yield optimal results from investments. It is thus advisable that they seek another decision criterion such as relying on more objective decision making tools rather than sentiments. This is particularly important during moments of economic, political or health crisis like those that have been witnessed in the recent past in Kenya.

This study made its contribution of new knowledge but nevertheless, it was not exhaustive on the subject of investor sentiment. A future study could have, as an objective, to develop an investor sentiment index for the NSE. This would be a useful tool in making investment decisions and would develop asset trading at NSE even further. The index could also facilitate that more research in the field of behavioural finance is done.

This study has been conducted during a period of crisis in politics and in public health that had a significant negative impact on investment at NSE. Therefore, replicating this study during a period of stability in both

the field of public health and politics would give better insights into the impact on investor sentiment and risk appetite.

A comparative study of two study groups could be undertaken to investigate whether the awareness of the investor sentiment impacts performance at NSE. The experimental group would be trained about the subjectivity of investors and sentiment over a brief period and then sent out to trade. On the other hand, the control group would be trading without any training on sentiment. Then the performance of the two groups could be compared to see if there is any difference between the two groups that could be associated to the awareness of investor sentiment.

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