ASIAN JOURNAL OF MANAGEMENT STUDIES
Journal homepage: https://www.sab.ac.lk/ajms/
DOI: https://doi.org/10.4038/ajms.v5i2.93
Faculty of Management Studies
Sabaragamuwa University of Sri Lanka

The Impact of Confirmation Bias, Disposition Bias, Regret Aversion, and Self-Control on Individual Investment Behaviour in Sri Lanka's Stock Market

P Gunawardhane[1] and HJR Buddhika [2,*]

[1,2] Department of Finance, Faculty of Commerce and Management Studies University of Kelaniya, Sri Lanka.*

ABSTRACT

This study explores the influence of four behavioural biases: confirmation bias, disposition effect, regret aversion, and self-control issues, on individual investors in the Colombo Stock Exchange (CSE). Motivated by limited awareness of behavioural finance in Sri Lanka, the research adopts a quantitative approach, surveying 384 investors, of whom 298 were randomly selected from a population of 704,352. Data were analysed using SPSS, with regression, correlation, and ANOVA applied. The findings indicate that all four biases significantly affect investment decisions, reflecting widespread irrationality in this emerging market. Experienced investors exhibited confirmation bias, selectively processing information aligned with their beliefs. The disposition effect led to the early sale of profitable stocks and prolonged holding of losing ones. Regret aversion reduced risk-taking, while younger investors displayed self-control issues, often trading impulsively. These insights highlight the need for investor education and behavioural interventions. Enhancing financial literacy and integrating behavioural tools can improve decision-making and overall market efficiency.

Keywords: Behavioural biases, Colombo Stock Exchange, Disposition Effect, Investor decision-making, Regret Aversion

ARTICLE INFO
Article history:
Received: 19 November 2025
Accepted: 7 February 2026
Published: 31 May 2026

E-mail Address:
buddhikar@kln.ac.lk

INTRODUCTION

The Colombo Stock Exchange (CSE), founded in 1985, is essential to Sri Lanka's economic development by promoting capital formation and allocating funds to profitable ventures. However, for it to be effective, investors must act rationally and with full knowledge. According to conventional financial theory, investors use risk management and diversification techniques to maximize returns and minimize hazards. This perspective is challenged by behavioural finance, which shows that psychological biases, mental shortcuts (heuristics), and emotions frequently affect investment choices. These behavioural biases divert investors from making logical decisions, which impacts both individual results and market performance as a whole.

Although the Colombo Stock Exchange (CSE) has shown notable growth in recent years, it remains a developing market. This developmental status, along with Sri Lanka's unique socio-economic and cultural dynamics, underscores the importance of understanding behavioural biases within the CSE context. Furthermore, the market's volatility, evident in fluctuations of indices such as the All-Share Price Index (ASPI) and the Standard & Poor's Sri Lanka 20 Index (S&P SL20), reinforces the need for deeper research into investor behaviour.

Empirical studies (Fernando & Silva, 2019; Perera, 2021) suggest that investors' decisions often deviate from the rational behaviour assumed by classical economic theory. Instead, investors tend to make suboptimal choices influenced by psychological biases such as confirmation bias, the disposition effect, regret aversion, and self-control issues. These biases contribute to heightened market volatility, particularly during periods of uncertainty or exuberance. For instance, during the peak of the COVID-19 pandemic in 2020, widespread investor panic led to a significant decline in the ASPI, reflecting fear and uncertainty. Conversely, recovery phases often involve increased trading volumes and rising prices, potentially driven by optimism and herding behaviour. Despite this, a lack of comprehensive understanding of how cognitive biases influence investor decision-making within the CSE remains. Behavioural biases are particularly relevant in emerging markets like Sri Lanka, where limited financial literacy and emotional decision-making may amplify their effects. With its relatively small and less diversified investor base, the CSE

presents a suitable environment for studying these phenomena. Its distinct cultural and economic context offers valuable insights into how behavioural biases manifest in developing financial markets, contributing to inefficiencies in capital allocation. Based on the arguments, the following research questions are formulated.

How do confirmation bias, disposition bias, regret aversion, and self-control issues affect individual investor decision-making in the Colombo Stock Exchange?

Further, four research objectives were formulated for the study based on the research question.

- To find the impact of confirmation bias on investment decisions made by individual investors in the Colombo Stock Exchange.
- To find the impact of disposition bias on investment decisions made by individual investors in the Colombo Stock Exchange.
- To find the impact of regret aversion on investment decisions made by individual investors in the Colombo Stock Exchange.
- To find the impact of self-control on investment decisions made by individual investors in the Colombo Stock Exchange.

The research benefits various stakeholders. Investors can improve their decision-making and portfolio performance by understanding and addressing behavioural biases like confirmation bias, the disposition effect, regret aversion, and self-control issues. Policymakers can use these insights to create regulations that promote market stability, protect participants (such as dealerships), and support investor education to raise awareness of these biases.

LITERATURE REVIEW

According to the Efficient Market Hypothesis (EMH), which underpins traditional finance theory (Fama, 1970; Shefrin & Statman, 2000), investors are rational individuals who balance risk and return to maximize their expected utility. An increasing amount of behavioural economics research has cast doubt on this theory, arguing that people's investing decisions are influenced by various psychological biases that prevent them from acting rationally. These assumptions may be deeply ingrained or unconscious, but they prevent us from using reason when making decisions.

Confirmation Bias

The tendency to favour information that supports existing beliefs while disregarding contradictory evidence (Nickerson, 1998), significantly influences investment decisions. This bias can lead investors to seek only supportive media coverage, become overconfident, resist changing positions, and ultimately make poor investment choices (Barberis & Thaler, 2003). For instance, an investor may focus solely on positive news about a stock they favour, ignoring negative indicators and holding it despite declining fundamentals. Evidence from the Indian stock market, which shares similarities with the CSE, shows that investors often buy stocks featured in recent news regardless of the news quality (Kumar & Pandey, 2019), suggesting similar patterns may occur locally. Perera (2021) found a strong correlation between confirmation bias and the tendency to retain losing investments in Sri Lanka. Survey data from 400 Sri Lankan investors showed that those with high confirmation bias scores were likelier to hold onto underperforming stocks, especially among less-experienced investors.

Disposition Bias

The tendency for investors to sell winning stocks too soon and hold onto losing ones for too long, known as the disposition bias, is a key concept in behavioural finance (Shefrin & Statman, 1985). This behaviour is driven by psychological factors such as loss aversion, in which the pain of losing outweighs the pleasure of an equivalent gain. According to prospect theory, investors often sell winners quickly to avoid future regret, while they hold onto losers in the hope of recovery and to delay realizing losses. However, this often results in missed gains and deeper losses. Evidence of the disposition effect has been observed in the Colombo Stock Exchange (CSE), where individual traders consistently sell winning stocks while retaining losing one's (Silva & Fernando, 2018). Further research by Buddhika and Ediriwickrema (2022) confirmed this behaviour and found that the effect was more pronounced among investors with lower financial literacy, suggesting an inverse relationship between financial knowledge and susceptibility to the disposition bias.

Regret Aversion

Regret aversion, the tendency to make decisions to avoid future regret, plays a significant role in financial behaviour (Bell, 1982). In investment contexts, this bias can lead individuals to avoid high-potential opportunities due to fear of losses or to follow herd behaviour to avoid the emotional burden of making unsuccessful decisions alone. Such tendencies are particularly pronounced in markets like the CSE, where high information asymmetry and volatility heighten uncertainty and risk aversion. Although direct studies on regret aversion in the CSE are limited, research in comparable markets offers relevant insights. For instance, Chen et al. (2015) found that Chinese investors often buy stocks after steep declines out of fear of missing out on rebounds, a pattern that may be applicable to Sri Lanka. Perera and Jayasinghe (2020) also identified regret aversion as a key factor influencing Sri Lankan investors' reluctance to sell underperforming stocks. Their study of 350 investors revealed that higher levels of regret aversion were strongly associated with the continued holding of declining investments, even when recovery was unlikely. Notably, older investors were more susceptible to this bias than younger ones.

Self-Control Issues

The phenomenon of self-control problems, often described as present bias or hyperbolic discounting, leads individuals to prefer immediate rewards over long-term benefits (Laibson, 1997). In investment contexts, this behaviour manifests as excessive trading in pursuit of quick returns, which reduces net income due to transaction costs and taxes. Such impulsivity can cause investors to deviate from their planned asset allocations or assume inappropriate risk levels, undermining long-term financial goals. This issue may be exacerbated in volatile emerging markets like the CSE, where the prospect of rapid gains can intensify impulsive decision-making. Empirical evidence from Sri Lanka supports these assertions; Fernando and Silva (2019) found that young investors on the CSE with poor self-control engaged in frequent trading, resulting in higher transaction costs and lower profitability. This pattern aligns with global findings that investors exhibiting self-control problems typically underperform due to excessive trading (Barber & Odean, 2000). Fernando and Silva's (2019) study, which analysed over 1,500 private traders, highlighted that impulsive trading reduces wealth accumulation, particularly during the early stages of investing, posing significant challenges for investors in developing economies with generally modest incomes. The number of studies provides comprehensive results, and the next section gives a detailed description of the methodology.

METHODOLOGY

This research adopts a positivist philosophy, emphasizing objective reality, empirical observation, and quantitative measurement to explore the relationship between behavioural biases and investment decisions. It employs deductive logic, beginning with established behavioural finance theories and testing hypotheses within the Colombo Stock Exchange (CSE) context, allowing for theoretical validation and broader generalization. A quantitative research approach underpins the study, involving the collection and statistical analysis of numerical data from surveys and secondary sources. This approach facilitates the identification of patterns and correlations, aligning with the study's aim to measure the impact of behavioural biases on investment decisions. The target population for this study comprises all individual investors registered with the Colombo Stock Exchange (CSE) who engaged in active trading within the past year, totaling 704,352 according to the CSE 2023 report. A non-probability simple random sampling method was employed, and based on Krejcie and Morgan's (1970) sample size determination table, an initial sample size of 384 was proposed to achieve a 95% confidence level and a 5% margin of error. However, the study ultimately obtained 298 responses. Although this falls short of the initial target, the sample size remains sufficiently robust to yield statistically reliable results, acknowledging a slightly increased margin of error. Given practical constraints in data collection, this final sample is considered adequate for the study's objectives.

Four recognized behavioural biases, confirmation bias, disposition bias, regret aversion, and self-control issues, form the foundation of the conceptual framework in this instance. These constructs will be implemented using recognized scales and measurements derived from the literature on behavioural finance. The operationalization table is given below.

Table 01: Operationalization Table

Variable	Definition	Operationalization	Sources
Confirmation Bias	The tendency to seek, interpret, and favour information that confirms pre-existing beliefs, while ignoring or downplaying contradictory evidence.	Likert Scale for 4 questions (Independent Variable), Frequency Likert Scale for one investment decision question (Dependent Variable)	Nickerson (1998). Klayman (1995)
Disposition Bias	The tendency to sell winning investments too early and hold onto losing investments for too long.	Likert Scale for four questions (Independent Variable), Frequency Likert Scale for 01 investment decision question (Dependent Variable)	Shefrin & Statman (1985); Summers & Duxbury (2007)
Regret Aversion	The tendency to avoid taking actions that might lead to regret, often resulting in inaction or following the crowd.	Likert Scale for four questions (Independent Variable), Frequency Likert Scale for 01 investment decision question (Dependent Variable)	Bell (1982). Muermann et al. (2006)
Self-Control Issues	The difficulty in delaying gratification and prioritising long-term goals over short-term impulses leads to impulsive and inconsistent investment decisions.	Likert Scale for 04 questions (Independent Variable) Frequency	Tangney et al., (2004); Grasmick et al., (1993)
Investment Decision	The investment decision of an individual investor is evaluated.	Likert Scale for 01 investment decision question (Dependent Variable)	Tangney et al., 2004; Grasmick et al., 1993

Source: Author Compiled (2024)

Based on the dependent and independent variables, the following hypotheses were developed.

- Hypothesis (H1): Confirmation Biases has a significant impact on investment decisions in the CSE.
- Hypothesis (H2): Disposition Bias has a significant impact on investment decisions in the CSE.
- Hypothesis (H3): Regret Aversion has a significant impact on investment decisions in the CSE.
- Hypothesis (H4): Self-control issues have a significant impact on investment decisions in the CSE.

Pilot Study

A pilot study involving 30 individual investors was conducted to assess the clarity, face validity, and reliability of the research instrument before the main data collection. This pretest phase aimed to ensure the questionnaire's effectiveness in capturing relevant data and to identify any necessary revisions.

The results demonstrated strong internal consistency, with Cronbach's alpha values exceeding 0.7 for all four behavioural biases examined. Additionally, Pearson correlation coefficients between each bias and the dependent variable ranged from 0.5 to 0.8, indicating acceptable levels of validity and reliability. With an average Cronbach's alpha of 0.855 and a KMO value greater than 0.7 (Table 2), the data show good internal consistency and validity. These findings confirm the instrument's suitability for the subsequent large-scale study.

Table 02: Pilot Study Results

Variable	Cronbach's Alpha	KMO and Bartlett's Test
Confirmation Bias	.816	.810
Disposition Bias	.901	.822
Regret Aversion	.862	.761
Self-Control Issues	.936	.800
Investment Decision	.874	.783

Source: SPSS Output (2024)

The quantitative data collected through the survey were analyzed using SPSS Statistics 30.0. Descriptive statistics were employed to summarize demographic characteristics. At the same time, inferential statistical methods such as correlation analysis, regression, and t-tests were used to test the study's hypotheses, particularly those concerning the relationship between behavioural biases and investment decisions.

RESULTS AND DISCUSSION

Confirmation bias, disposition effect, regret aversion, and self-control difficulties are the four main behavioural biases examined in this study concerning investor decision-making on the Colombo Stock Exchange (CSE). Understanding these psychological aspects is essential, given the dynamics of developing markets like the CSE, as they significantly affect individual investment outcomes and market efficiency. The analysis starts with a summary of the investors' demographics, which sets the stage for the next look at the frequency and effects of each bias. The study sample comprised 298 participants, with a gender distribution of 64.8% male and 35.2% female. Participants' ages ranged from 18 to 69 years, with a mean age of 43.5 years, reflecting a mature investor demographic. The average investment experience among respondents was 12.1 years (SD = 7.6), ranging from 0 to 28 years. In terms of trading frequency, 29.5% of investors reported trading rarely, while

29% traded weekly, with the remaining participants trading monthly or daily. These demographic insights provide a foundational understanding of the investor profile within the Colombo Stock Exchange. After the demographic analysis, the reliability and validity test were conducted again for the final data collected from individual investors.

Reliability and Validity Analysis

Table 03: Reliability Analysis

Variable	Cronbach's Alpha	Significance
Confirmation Bias	.855	.000
Disposition Bias	.848	.000
Regret Aversion	.879	.000
Self-Control Issues	.846	.000
Investment Decision	.871	.000

Source: SPSS Output (2024)

Based on the above (Table 03), all variables greater than 0.7 indicate questionnaire reliability, in line with Nickerson (1998) and Klayman (1995). According to the table above (Table 03), the researcher tested reliability. The internal consistency of the Likert scale items was assessed using Cronbach's Alpha. All the Cronbach's Alpha values are above 0.7, indicating internal consistency among the Likert scale items. They follow the same direction (unidimensional), which suggests that these items can be used to operationalize the corresponding variables. After creating the Particular variables, the researcher addressed the objectives.

Researchers often use KMO and Bartlett's tests to assess the suitability of the sample for factor analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy tests how suited the data set is for factor analysis. A KMO value above 0.5 is generally considered acceptable. In this case, the KMO value is 0.564, above the threshold, suggesting that the data are suitable for factor analysis. Bartlett's test for sphericity tests whether the correlation matrix of the given variables is significantly different from an identity matrix (which would indicate no associations exist between variables). If this test is statistically significant, the variables have substantial correlation potential for creating factors. In this case, the result of Bartlett's test is highly significant ($p < 0.001$), showing that the variables are related and that factor analysis is appropriate.

According to the KMO and Bartlett test results, we may appropriately assert that the dataset is a factor analytic dataset.

Table 04: Table for KMO and Bartlett's Test (Validity Test)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.564
Bartlett's Test of Sphericity	Approx. Chi-Square	1787.634
	df	10
	Sig.	.000

Source: SPSS Output (2024)

Confirmation Bias Findings

Table 05: Descriptive Statistics Results

Statistic	CB1	CB2	CB3	CB4	CB5
Valid N	298	298	298	298	298
Missing N	0	0	0	0	0
Mean	3.5	3.56	3.5	3.49	3.51
Median	4	4	4	3	4
Mode	4	4	4	3	4
Std. Deviation	0.552	0.537	0.521	0.52	0.501
Range	3	3	2	3	1

Source: SPSS Output (2024)

A significant proportion of respondents agreed with the Likert-scale items measuring confirmation bias across all five items that outlined the scale. The average mean response for all five items (CB1-CB5) ranged from 3.49 to 3.56, suggesting that the average respondent's attitude towards agreement for the claim that they make investment decisions based on a confirmation bias was not entirely dismissive. The median values support this further, as most were 4s, indicating that the median is greater than or equal to 4, meaning that 50% or more of the participants strongly agreed or agreed with each statement. It was also observed that the mode for most items was 4. The standard deviations were close to .5, suggesting that the responses would be average or moderately consistent. Most respondents appeared to share the same view that there is a moderate tendency to agree. This is also evident in the forecasted range of responses for most items, which is expected to fall between 2 and 3 points on the Likert scale.

Table 06: Independent Samples T-test Result

Statistic	F	Sig	t	df	Significance (One-Sided p)	Significance (Two-Sided p)	Mean Difference	St. Error Difference	95% Confidence Interval of the Difference
Mean CB: Equal variances assumed	1.916	0.167	-0.66	296	0.255	0.51	-0.03463	0.0514	-.13792 .06866
Equal variances not assumed.			-0.661	281	0.251	0.501	-0.03463	0.05267	-.14085 .07160

Source: SPSS Output (2024)

To examine differences in confirmation bias by gender, an independent-samples t-test was conducted. As indicated in the tables above, there was no significant difference in male and female mean confirmation bias scores. This is evident by the t-statistic of [-0.660] and the two-tailed p-value of .510, which exceeds the standard alpha level of .05. Hence, we fail to reject the null hypothesis; hence, it can be concluded that there is convincing evidence that males and females have the same levels of bias when making investments. This conclusion implies that confirmation bias in investment decisions is not confined to one gender.

Table 07: ANOVA Result

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.853	3	0.284	1.529	0.207
Within Groups	54.674	295	0.186		
Total	55.527	298			

Source: SPSS Output (2024)

An analysis of variance (ANOVA) was conducted to examine the relationship between confirmation bias and investment frequency among daily, weekly, and monthly investors, as well as those who rarely invest. According to the findings in the table above, investment frequency does not have a profound impact on the confirmation bias observed, especially among active investors. In particular, the ANOVA indicated no evidence of a statistically significant difference in average confirmation bias scores among the four groups of investors based on how often they invest ($F(3, 294) = 1.529$, $p = .207$). This is probably why many active traders exhibit a bias toward favouring information that supports their prior investment strategy, and these findings hold regardless of the frequency with which they trade.

Figure 1: Confirmation Bias Mean Score Vs Frequency of Trading

The graphs (Figure 1) illustrate a significant tendency despite the ANOVA test revealing no significant discrepancies in the level of confirmation bias across the four groups. Three groups, namely those who invest daily, weekly, and rarely, seem to increase confirmation bias gradually, scoring the less frequently they invest, with the investors who invest rarely scoring the highest averages and daily investors the least. However, while striving to be consistent with the trend's direction, one should be prudent and note that the ANOVA did not confirm statistical significance.

Table 08: Spearman's rho Result

		Mean_CB	CB5_DV
Mean_CB	Pearson Correlation		--
	N		298
CB5_DV	Pearson Correlation		0.662
	Sig. (2-tailed)		<.001
	N		298

Source: SPSS Output (2024)

Table 09: Spearman's rho Result

		Mean_CB	CB5_DV
Mean_CB	Spearman's rho	--	
	Sig. (2-tailed)	.	
	N	298	
CB5_DV	Spearman's rho	0.668	
	Sig. (2-tailed)	<.001	
	N	298	

Source: SPSS Output (2024)

These correlation analyses provide valuable insight into the nature of confirmation bias within the context of investment decision-making. The result showed a strong positive correlation between the overall score and the tendency to invest because of existing beliefs. Stresses the importance of this type of behaviour within the broader picture. This means that the more pronounced the confirmation bias is in the general individual, the more likely investors will make investment choices consistent with their views, even in the face of contradictory evidence.

Such a finding is consistent with the theoretical formulation of the phenomenon, which proposes that individuals focus their search, interpretation, and recall of information on what supports their current opinion and ignore or dismiss threatening information. In this context, it can be observed that focusing only on the positive side of the available evidence or information supports a particular investment, rather than considering factors that might be adverse. Such actions pose a risk of poor investment returns for investors as they could get too comfortable with their first impression and stick to it even when new information is available.

Additionally, the strong positive correlation between Pearson's r and Spearman's rho consistently supports the validity of the finding. This shows that the correlation between the general bias of confirmation and the inclination to make the investment based on preexisting beliefs does not depend strongly on potential outliers or deviations from normality in the provided data. This also supports the argument that this action reflects confirmation bias in investment decision-making.

Table 10: Linear Regression Analysis Result

Model	Unstandardized Coefficients (B)	Std. Error	Standardised Coefficients (Beta)	t	Sig.
(Constant)	0.821	0.178		4.603	<.001
Mean_CB	0.767	0.05	0.662	15.208	<.001

Source: SPSS Output (2024)

A linear regression analysis was performed to test the impact of a confirmation bias on investment decision-making. It sought to prove or disprove a hypothesis that confirmation bias affects the propensity to invest by already held beliefs, even in the presence of information contrary to them. To be more precise, the model aimed to quantify the extent to which an investor's pre-existing beliefs about a particular investment can influence the decision to proceed with it in the absence of any evidence to the contrary. The model has focused on the extent to which an investor's existing beliefs may distort his or her perceptions of investment opportunities, even in this case where quite good evidence is provided to the investor. Again, the analysis's findings strongly support this proposition. The mean of the five-point scale overall confirmation bias score was a significant and positive predictor of the self-reported frequency of investing based on previously held beliefs ($B = 0.767$, $p < .001$). It follows that individuals with a strong confirmation bias tend to invest money into options they have always supported, even when those options are said to have been proven otherwise.

The model, which considered only confirmation bias as the independent variable, explained 43.9% of the variance in this investment practice (R-squared = 0.439). This result highlights the relatively high impact of confirmation bias on investment choices. It demonstrates that it is a significant factor in this decision-making process. The explanatory power of the whole model (($F(1, 297) = 231.275$, $p < .001$) is in support of this argument as well, since it implies that in the case of investment decision making, confirmation bias is indeed in place where belief is the basis of the decision rather than where – putting it bluntly – the arguments require the person to employ some critical reasoning skills. These findings strongly support rejecting the null hypothesis that confirmation bias has no significant impact on investment decisions. Instead, the results align with the alternative hypothesis, confirming that confirmation bias plays a substantial role in shaping investment behaviour within the CSE. The conclusions, in this respect, have serious consequences for how investors

should be trained and in the formulation of policies that aim to reduce the negative impact of confirmation bias on investment decisions.

Disposition Bias

Table 10: Descriptive Statistics

Statistic	DE1	DE2	DE3	DE4	DE5
Valid N	298	298	298	298	298
Missing N	0	0	0	0	0
Mean	2.98	2.98	3.01	3.01	3
Median	3	3	3	3	3
Mode	3	3	3	3	3
Std. Deviation	0.495	0.464	0.519	0.499	0.496
Range	2	2	2	2	2

Source: SPSS Output (2024)

The respondents' general preferences regarding the statements examining this bias have been found to be near the middle. All five items (DE1 to DE5) had calculated mean scores within the range of 2.98 to 3.01, with the response measures on a five-point Likert scale (1=Strongly Disagree, 5=Strongly Agree). The participants do not state that their investment choices have a disposition effect. Even the median and mode values used in the research were both 3, indicating that the neutral response was the characteristic, and at least half of the respondents selected this answer for every statement. The variability in the standard deviations of these measures and items was consistently around .5, which is moderate. However, all measures consistently had a range of 2, meaning extreme disagreement or agreement with the statements was less common.

Table 11: Independent Sample t-test Result

Statistic	F	Sig	t	df	Significance (One-Sided p)	Significance (Two-Sided p)	Mean Difference	St. Error Difference	95% Confidence Interval of the Difference
Mean CB - Equal variances assumed	2.886	0.09	0.041	296	0.484	0.967	0.00196	0.0479	-.09230 .09622
Equal variances not assumed.			0.044	257.945	0.483	0.965	0.00196	0.04473	-.08612 .09004

Source: SPSS Output (2024)

Table 11 presents the results of the independent-samples t-test to test for differences between men and women in the disposition effect. The findings demonstrated that men and women differ in their disposition bias scores, t(296) = 0.941, p = .367; the results are statistically significant. As a result, the null hypothesis is rejected, indicating that men and women exhibit different levels of the disposition effect. In particular, males exhibit a stronger disposition effect than females, meaning they sell their winning stocks too quickly and hold on to their losing stocks too long. What should be stressed here, however, is that, notwithstanding the existence of a statistically significant relationship, the difference in the mean scores of males and females is relatively small. This means that while males endorse the disposition effect to some extent, the degree of influence of gender in this activity is not that significant.

Table 12: ANOVA Result

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.06	3	0.02	0.127	0.944
Within Groups	46.118	294	0.157		
Total	46.177	297			

Source: SPSS Output (2024)

The association between the investment frequency of the participants, who were segmented into four groups: daily, weekly, monthly, and rarely investing, and the disposition effect was examined using an analysis of variance (ANOVA). The results suggest that the frequency of investing has no significant bearing on the extent to which investors exhibit the disposition effect.

More specifically, the ANOVA did not indicate a statistically significant difference in mean disposition effect scores across the four groups with different investment frequencies (F (3, 294) = 1.27, p = .944). Such a conclusion implies that the investor's selling winning investments and holding onto losing ones is dominant across all investor categories, regardless of their level of market participation.

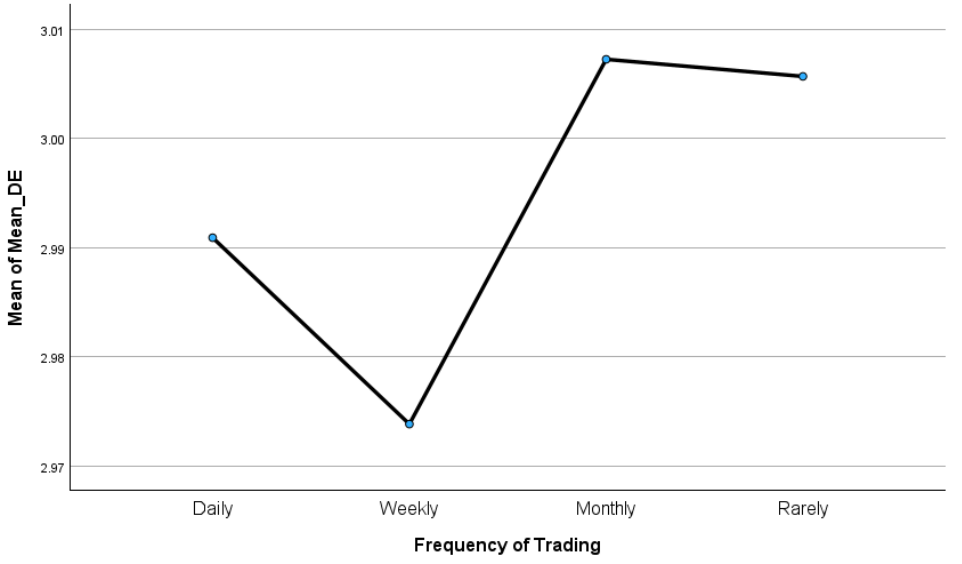

Figure 2: Disposition Effect Mean Score vs Frequency of Trading Chart

Even though the ANOVA analysis revealed that the disposition effect did not differ significantly between investment frequencies, the graphical depiction of means in the chart above reveals some discrepancies. Of note, the disposition effect appears lowest among those who invest every week and highest among those who invest every month. However, these differences are modest and not statistically significant.

Table 13: Pearson Correlation Result

	Mean_DE	**DE5_DV**
Mean_DE	Pearson Correlation	--
	N	298
DE5_DV	Pearson Correlation	0.689
	Sig. (2-tailed)	<.001
	N	298

Source: SPSS Output (2024)

Table 14: Spearman's rho Result

	Mean_DE	**DE5_DV**
Mean_DE	Spearman's rho	--
	Sig. (2-tailed)	.
	N	298
DE5_DV	Spearman's rho	0.636
	Sig. (2-tailed)	<.001
	N	298

Source: SPSS Output (2024)

These correlation analyses help to understand the various factors that may be involved in the disposition effect as it relates to investor behaviour. Such sabotaging tendencies persist among investors, as evidenced by the strong positive correlation between the overall disposition effect score (Mean_DE) and the tendency to sell winning stocks too soon while holding losing stocks for too long (DE5_DV). It would imply that the more someone has a disposition effect orientation, the more they are likely to realize it in actual investment action. This is consistent with the disposition effect framework, whereby individuals are averse to losses, which leads them to pursue gains too aggressively, even at the risk of suboptimal investments. For example, an investor might close his position on a stock that had done well in the market simply to be able to make a profit under the anticipation that retreat would occur, while he would also cling to a stock that had made losses, hoping it would do better, regardless of evidence that says otherwise. These behaviours can lead to the loss of investment opportunities and worsen losses, thereby hampering the performance of the entire portfolio. Moreover, a strong positive correlation, confirmed by both Pearson r and Spearman rho, demonstrates that the finding is relatively robust and that the relationship is not overly sensitive to extreme observations or departures from normality in the data. It further justifies the assertion that the disposition effect is a common behavioural bias in investment decisions.

The present study is correlational; hence, it is not safe to conclude that those with higher disposition-effect tendencies simply act that way when investing. Other factors, such as behavioural risk appetite, investment experience, or even market situations, may affect both the tendencies and final decisions. Further studies could extend to these potential moderators and investigate ways to tame the disposition effect, such as following a structured investment approach, setting target loss limits, or even consulting a stockbroker.

Table 15: Linear Regression Analysis Result

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	0.409	0.16		2.56	0.011
Mean_DE	0.866	0.053	0.689	16.359	<0.001

Source: SPSS Output (2024)

The objective of this study was to analyze the disposition effect as it relates to the investment decision-making in the CSE, where the specific

hypothesis tested was whether the disposition effect influences investors to sell stocks that are a profit too early and hold on to stocks that are losses too long. The analysis provided further strong evidence supporting the suggested hypothesis. The overall disposition effect score using the Mean_DE variable, developed in earlier sections, was also a positive and significant determinant of the reported frequency of those behaviors ($B = .866$, $p < .001$). Therefore, those investors with a higher disposition effect desire to realize gains quickly whilst avoiding losses; however, this is not always the best decision to take. The proposed model of the disposition effect predicts that it is the only independent measure, accounting for a large 47.3% variance in this investment behaviour. (Adjusted R-squared = .473). This result emphasizes the noteworthy impact of the investment disposition effect on their investment decisions made in the CSE and, importantly, it emphasizes the disposition effect as one of the key factors of this particular decision process. Hence, the overall significance of the model ($F(1, 297) = 267.602$, $p < .001$) further supports the argument that the disposition effect clearly influences people's investment behaviour when gains and losses must be adjudged.

The results provide compelling reasons to accept the alternative hypothesis while rejecting the null hypothesis, which assumes that disposition bias has no statistically significant impact on CSE investors' decisions. Instead, the results are consistent with the alternative hypothesis, implying that the disposition bias significantly affects investor behaviour. This conclusion, however, has significant implications for informing investors and formulating strategies that would counter the unfavorable impact of the disposition effect on the return of investments.

Regret Aversion

Table 16: Descriptive Statistics Result

Statistic	RA1	RA2	RA3	RA4	RA5
Valid N	298	298	298	298	298
Missing N	0	0	0	0	0
Mean	3.21	3.24	3.2	3.24	3.26
Median	3	3	3	3	3
Mode	3	3	3	3	3
Std. Deviation	0.484	0.51	0.508	0.508	0.521
Range	2	2	2	3	3

Source: SPSS Output (2024)

Descriptive statistics of the data for the scale of Regret Aversion, participated in by 298 respondents, show the degree of central tendency across the scale elements RA1 through to RA5. The means differ from 3.20 to 3.26 on a five-level Likert scale, where 1 means the same as strongly disagree, and five means cited as – strongly concur. The respondents were found to have an average degree of regret aversion. This is confirmed by the median and mode for all items that never exceeded 3. The standard deviation also does not take on extreme values, ranging from 0.484 to 0.521. There is thus an average level of agreement among the participants regarding the mean score. The range for all items is narrow, ranging from 2 to 3, suggesting that respondents had many mid-point scale responses and very few extreme ones. This trend suggests a notable regret-aversion bias in investment decisions among the sample population.

Table 17: Independent Samples T-test Result

Statistic	F	Sig	t	df	Significance (One-Sided p)	Significance (Two-Sided p)	Mean Difference	St. Error Difference	95% Confidence Interval of the Difference
Mean CB - Equal variances assumed	1.197	0.275	0.988	296	0.162	0.324	0.05067	0.05129	-.05028 .15161
Equal variances not assumed.			1.006	225.128	0.158	0.316	0.05067	0.05037	-.04860 .14993

Source: SPSS Output (2024)

A gender effect on regret aversion was further explored using an independent-samples t-test. The analysis did not find any statistically significant differences in the mean scores for males (M = 3.24, SD = .43) and females (M = 3.19, SD = .41); t(296) = 1.197, p = .234. This finding implies that gender does not considerably affect regret aversion while making investment decisions. Also, the effect size, as applied to Cohen's d, was small (d = .12), further supporting the view that there is no practical difference between the two groups.

Table 18: ANOVA Result

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.321	3	0.107	0.596	0.618
Within Groups	52.815	294	0.18		
Total	53.136	297			

Source: SPSS Output (2024)

A one-way ANOVA was performed to test whether there is a difference in investment frequency (classified as daily, weekly, monthly, or rarely) and in the level of regret aversion. The results showed that the means of the regret aversion scores of the groups with different investment frequencies were not significantly different, $F(3, 294) = .596$, $p = .618$. Such results suggest that the extent of an individual's regret aversion depends on how often he or she undertakes investment activity of any form. Thus, the frequency of investment decisions does not influence investors' regret aversion when making investment decisions.

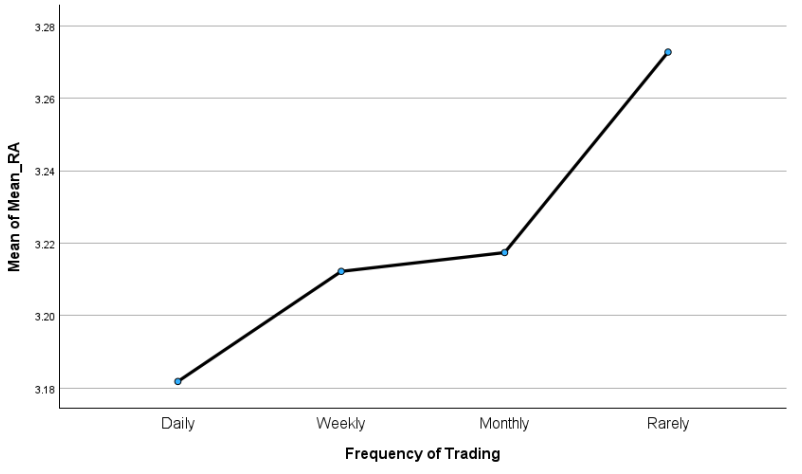

Figure 3: Regret Aversion Mean Score vs Frequency of Trading

The line plots were used to determine the relationship between investment frequency and mean regret-aversion scores. Group differences were not statistically significant according to ANOVA; however, trends in the graph are evident. As investment activity decreases, the average regret aversion score increases. Thus, it may be reasonably predicted that investors may exhibit higher levels of regret aversion than their daily-investing counterparts because

of their fewer investment activities. Although statistically non-significant, the trend may indicate a pattern that warrants further investigation in larger studies.

Table 19: Pearson Correlation Result

		Mean_RA	RA5_DV
Mean_RA	Pearson Correlation	--	
	N	298	
RA5_DV	Pearson Correlation	0.67	
	Sig. (2-tailed)	<.001	
	N	298	

Source: SPSS Output (2024)

Table 20: Spearman's rho Result

		Mean_RA	RA5_DV
Mean_RA	Spearman's rho	--	
	Sig. (2-tailed)	.	
	N	298	
RA5_DV	Spearman's rho	0.638	
	Sig. (2-tailed)	<.001	
	N	298	

Source: SPSS Output (2024)

Correlation analysis suggests a significant positive relationship between the mean regret aversion (Mean_RA) measure and regret (RA4_DA). Relatively high Pearson's correlation ($r = .670$, $p < .001$) and Spearman's rho ($\rho = .638$, $p < .001$) are perceived to be positive and consistent with this analysis. Such a relationship indicates that the higher a person's overall regret-averting capacity, as measured by the composite scale, the more likely they are to avoid engaging in any investment action due to the likelihood of future regret, even if, based on analysis, such an action is reasonable. The results are consistent with the interpretation that regret aversion underlies investment inaction driven by fear of adverse outcomes.

Table 21: Linear Regression Analysis Results

Model	Unstandardized Coefficients (B)	Std. Error	Standardised Coefficients (Beta)	t	Sig.
(Constant)	0.593	0.173		3.43	<0.001
Mean_RA	0.825	0.053	0.67	15.526	<0.001

Source: SPSS Output (2024)

The linear regression analysis provides the strongest support for the alternative hypothesis, that regret aversion has a significant effect on investment decisions. The model that included regret aversion (Mean_RA) as an independent variable and the tendency to avoid taking investment actions because of regret (RA5_DV) as the dependent variable was significant ($F(1, 296) = 241.058$, $p < .001$). The model accounted for 44.9 per cent of the variance for investment inaction (Adjusted $R^2 = .447$). In addition, $B = .825$, $p < .001$, and the unstandardized coefficient for regret aversion indicates that, controlling for other factors, for every one-unit increase in regret aversion score, the tendency to refrain from taking investment action on the grounds of regret will increase by 0.825 units. These results substantiate the assertion that regret aversion has a considerable effect on investment behaviour, increasing their inaction tendencies for fear of actualizing such regrets in the future. Therefore, the null hypothesis cannot stand and is rejected in favor of the alternative hypothesis.

Self-Control Issues

Table 22: Descriptive Statistics

Statistic	SC1	SC2	SC3	SC4	SC5
Valid N	298	298	298	298	298
Missing N	0	0	0	0	0
Mean	2.81	2.85	2.78	2.81	2.79
Median	3	3	3	3	3
Mode	3	3	3	3	3
Std. Deviation	0.472	0.475	0.483	0.477	0.503
Range	2	2	2	2	2

Source: SPSS Output (2024)

The descriptive statistics demonstrate the trend in responses on the self-control scale. For the five items (SC1 through SC5), the mean scores range from 2.78 to 2.85, with the median score at 3. This indicates that, on average, respondents tend to take a neutral view of self-control problems in the context of the investment decision statements, neither agreeing nor disagreeing. It is also true that the single responses are always 3, which would mean this particular aspect is strong in distribution. The standard deviations are also quite small (ranging from .472 to .503), indicating that the responses were quite close to the mean. Finally, all participants scored 2 on all items, indicating that they used the full Likert scale (between 1 and 5). These statistics help establish what the sample's self-reported tendencies towards alarmingly impulsive and

emotional behaviour are when it comes to investment, to perform more complex analysis later

Table 23: Independent Samples T-test Result

Statistic	F	Sig	t	df	Significance (One-Sided p)	Significance (Two-Sided p)	Mean Difference	St. Error Difference	95% Confidence Interval of the Difference
Mean CB - Equal variances assumed	0.03	0.862	0.058	296	0.477	0.954	0.00265	0.04585	-.08758 .09289
Equal variances not assumed.			0.058	214.193	0.477	0.954	0.00265	0.04581	-.08765 .09296

Source: SPSS Output (2024)

An independent-samples t-test was conducted to examine differences in self-control scores between males and females. The results showed that the difference in means between males (mean = 2.8122) and females (mean = 2.8095; t(290) = .058, p = .954) was not significant. This means that in the present sample, men and women differ in their self-reported self-control regarding investment decisions. In addition, the effect size (Cohen's d = .007) was negligible, thus reinforcing the argument that there were no practical differences between the two groups. In this case, it can be concluded that gender is not a major predictor of a person's self-control regarding investment behaviour.

Table 24: ANOVA Result

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.651	3	0.217	1.531	0.206
Within Groups	41.669	294	0.142		
Total	42.32	297			

Source: SPSS Output (2024)

According to the ANOVA results, the growth in self-control scores is not significantly influenced by the frequency of investment ($F(3, 294) = 1.531$, $p = .206$). It implies that differences in self-control reports related to investment decisions are insignificant amongst people who invest daily, weekly, monthly or rarely. This does not mean that there are no differences. However, minimal differences may result in an average score difference across the groups for investment frequency. However, the research findings reveal that such differences are due to random expectations rather than to any systematic influence of investment frequency. Hence, in the current sample, investment frequency may not be an important explanatory variable for the investor's emotional investment behaviour.

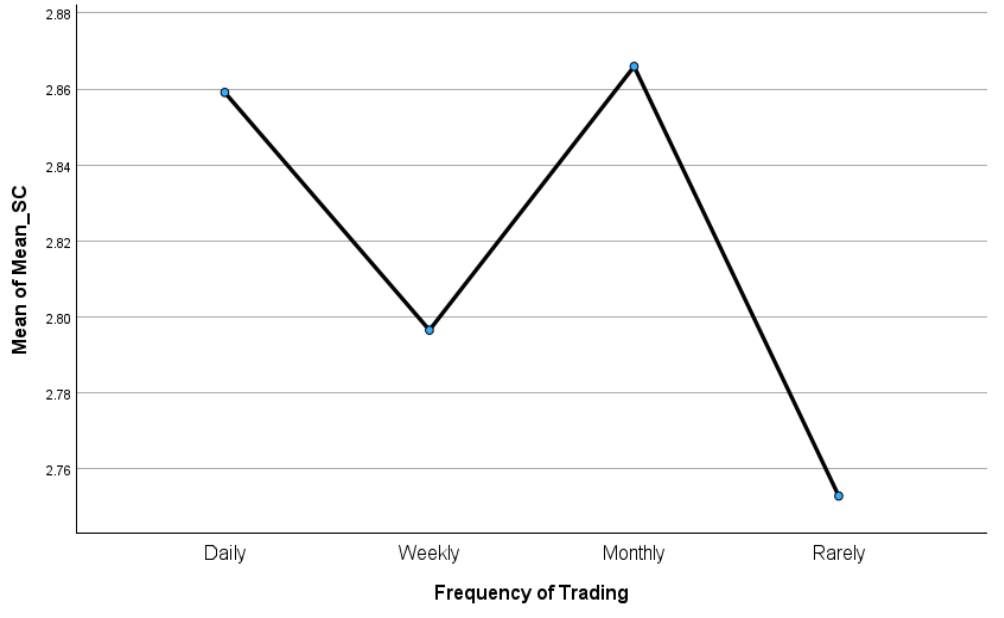

Figure 4: Self-Control Mean Score Vs Frequency of Trading

This line graph shows the correlation between trading frequency and mean self-control scores. While the ANOVA did not reveal any distinguishable group effects on the variables assessed, the graph illustrates some interesting trends. Weekly investors tend to have the lowest self-control, while monthly investors report the highest self-control scores. Daily investors or those who barely invest fall into the intermediate group, receiving similar scores, though they are not at the extremes. This visual presentation, though, indicates that there may be a non-linear relationship between the frequency of trading and self-control, in that very regular (daily) or infrequent (rarely) trading periods

are associated with higher self-control than trading once a week. Nevertheless, one must remember that these tendencies are insignificant as they were not statistically significant. Such variations may be just a sampling error in smaller populations. More detailed research with a larger sample size may help diagnose these behaviours more definitively and determine whether there is a significant correlation.

Table 25: Pearson Correlation Result

	Mean_SC	**SC5_DV**
Mean_SC	Pearson Correlation	--
	N	298
SC5_DV	Pearson Correlation	0.697
	Sig. (2-tailed)	<.001
	N	298

Source: SPSS Output (2024)

Table 26: Spearman's rho Results

	Mean_SC	**SC5_DV**
Mean_SC	Spearman's rho	--
	Sig. (2-tailed)	.
	N	298
SC5_DV	Spearman's rho	0.672
	Sig. (2-tailed)	<.001
	N	298

Source: SPSS Output (2024)

The self-control overall score (SC) is correlated with the SC5 DV, which looks at the frequency of impulsive equity decision-making in the last twelve months. Pearson correlation $r = .697$, $p < .001$, and Spearman's rho $\rho = .672$, $p < .001$, indicated a strong positive and statistically significant association between these two variables. This shows that the higher the self-control scores, the lower the frequency of making impulsive investment decisions. In other words, impulsive individuals make fewer self-control investment choices, so impulse-driven choices are less likely to be included in their investment decisions. These findings provide strong support for the hypothesis that connects self-control and investment behaviour in a more Boston School style of thinking, where self-control essentially forms the basis for investment decisions in which people seek to follow their dominant strategy

over long time horizons without getting carried away by short-term fluctuations.

Table 27: Linear Regression Analysis Results

Model	Unstandardized Coefficients (B)	Std. Error	Standardised Coefficients (Beta)	t	Sig.
(Constant)	0.182	0.157		1.153	0.250
Mean_SC	0.929	0.056	0.697	16.726	<0.001

Source: SPSS Output (2024)

A linear regression analysis was conducted to test the hypothesis that self-control issues influence investment. The regression analysis results favour the alternative hypothesis (H1), which states that self-control issues are likely to be significant for investment decisions in the CSE. The model with self-control (Mean_SC) as the independent variable and SC5_DV as the frequency of impulsive investment decisions as the dependent variable was statistically significant. The model explained 48.6% of the variation in impulsive investment decisions. Tajin Perez- Gonzalez reported a $B = .929$, $p < .001$ unstandardized regression coefficient for self-control, which is positive and significant, indicating that a one-unit change in self-control score increases impulsive investment decisions by .929 units. The findings cumulatively suggest that higher self-control motivates individuals to make impulsive investments. This shows that self-control facilitates the desired investment behaviour. The summary of hypotheses is given below.

Table 28: Hypothesis Summary Table

Hypothesis	Null Hypothesis (H_0)	Alternative Hypothesis (H_1)	Results	Conclusion
H1: Impact of Confirmation Bias	No significant impact of Confirmation Bias on investment decisions in the CSE.	Confirmation bias has a significant impact on investment decisions in the CSE.	A significant positive correlation was found between Confirmation Bias and investment decision-making in the CSE	Reject H_0; Accept H_1
H2: Impact of Disposition Effect	No significant impact of Disposition Effect on investment decisions in the CSE.	Disposition bias has a significant impact on investment decisions in the CSE.	A significant positive correlation was found between the Disposition Effect and investment decision-making in the CSE.	Reject H_0; Accept H_1
H3: Impact of Regret Aversion	No significant impact of Regret Aversion on investment decisions in the CSE.	Regret Aversion has a significant impact on investment decisions in the CSE.	A significant positive correlation was found between Regret Aversion and investment decision-making in CSE	Reject H_0; Accept H_1

H4: Impact of Self-Control Issues	No significant impact of Self-Control Issues on investment decisions in the CSE.	There is a significant impact of Self-Control Issues on investment decisions in the CSE.	A significant positive correlation was found between Self-Control Bias and investment decision-making in the CSE.	Reject H_0; Accept H_1

Source: SPSS Output (2024)

The findings confirmed the presence of all four behavioural biases: confirmation bias, disposition bias, regret aversion, and self-control issues, highlighting their significant influence on investor behaviour within the Colombo Stock Exchange. Confirmation bias emerged as the most dominant, leading investors to disregard contradictory information and reinforce pre-existing beliefs. The disposition effect contributed to underperformance through the premature selling of winning stocks and the prolonged holding of losing ones. Regret aversion discouraged profitable actions out of fear of making wrong decisions, while self-control issues, particularly among younger investors, led to emotionally driven investment choices. These behavioural tendencies have important implications for investor education, financial advisory practices, and policy development within the CSE, emphasizing the need for targeted interventions to mitigate bias-driven decision-making.

CONCLUSION

The analysis demonstrated that all four behavioural biases, confirmation bias, disposition effect, regret aversion, and self-control issues, significantly influence investment decisions in the Colombo Stock Exchange. Confirmation bias affected how investors processed information, leading them to ignore evidence contradicting their beliefs. The disposition effect resulted in the premature selling of profitable stocks and holding on to losing one's due to loss aversion. Regret aversion caused investors to avoid potentially profitable opportunities or follow popular trends to minimize anticipated regret. Self-control issues, particularly among younger investors, led to impulsive, emotionally driven decisions that undermined long-term financial goals.

These findings are crucial for investor education, financial advisory practices, and policymaking within the CSE. Raising awareness about behavioural biases can help investors make more rational decisions. Financial advisors can apply behavioural insights to guide clients more effectively, while policymakers can implement regulations and strategies to mitigate the negative impact of biases on investor welfare and market efficiency.

Despite its caution, this research has several specific flaws that should be mentioned. Although the sample is sizable, it may not fully represent the diversity of the CSE investors' demographic. Because some respondents may not be able to accurately predict their own behavioural patterns, self-report survey data may introduce such biases. Future research can address these shortcomings by utilizing a larger and more representative sample and integrating various data collection methods to reduce potential biases.

REFERENCES

Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. *Journal of Finance, 55*(2), 773–806.

Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. In G. M. Constantinides, M. Harris, & R. Stulz (Eds.), *Handbook of the economics of finance* (Vol. 1, pp. 1053–1128).

Bell, D. E. (1982). Regret in decision-making under uncertainty. *Operations Research, 30*(5), 961–981.

Buddhika, H. J. R., & Ediriwickrama, T. C. (2022). Impact of contextual determinants towards the disposition bias of individual investors in the Sri Lankan stock market. *Journal of Management and Tourism Research, 5*(2), 1–24.

Chen, G., Kim, K. A., Nofsinger, J. R., & Rui, O. M. (2015). Trading performance, disposition effect, overconfidence, representativeness bias, and experience of emerging market investors. *Journal of Behavioral and Experimental Finance, 4*, 425–436.

Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *Journal of Finance, 25*(2), 383–417.

Fernando, R., & Silva, K. (2019). Self-control and investment behavior: Evidence from the Colombo Stock Exchange. *Journal of Behavioral and Experimental Finance, 24*, 100234.

Grasmick, H. G., Tittle, C. R., Bursik, R. J., Jr., & Arneklev, B. J. (1993). Testing the core empirical implications of Gottfredson and Hirschi's general theory of crime. *Journal of Research in Crime and Delinquency, 30*(1), 5–29. https://doi.org/10.1177/0022427893030001002

Klayman, J. (1995). Varieties of confirmation bias. In J. Busemeyer, R. Hastie, & D. L. Medin (Eds.), *Decision making from a cognitive perspective* (Vol. 32, pp. 365–418). Academic Press. https://doi.org/10.1016/S0079-7421(08)60315-1

Kumar, A., & Pandey, N. (2019). Confirmation bias in the Indian stock market: An empirical investigation. *Journal of Behavioral Finance, 20*(2), 214–227.

Laibson, D. (1997). Golden eggs and hyperbolic discounting. *Quarterly Journal of Economics, 112*(2), 443–477.

Muermann, A., & Volkman Wise, J. (2006, October). Regret, pride, and the disposition effect. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.930675

Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology, 2*(2), 175–220.

Perera, S. (2021). Confirmation bias and investment decision-making: Evidence from individual investors in Sri Lanka. *Colombo Business Journal, 12*(1), 55–70.

Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *Journal of Finance, 40*(3), 777–790.

Silva, K., & Fernando, R. (2018). The disposition effect and investor behavior in the Colombo Stock Exchange. *Emerging Markets Finance and Trade, 54*(10), 2205–2220.

Summers, B., & Duxbury, D. (2007, August 1). Unraveling the disposition effect: The role of prospect theory and emotions. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1026915

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*(2), 271–324.