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BEHAVIORAL BIASES AND PORTFOLIO STRATEGIES: ANALYZING THE IMPACT ON INVESTOR DECISION MAKING IN THE NEPALESE STOCK MARKET

Keywords: behavioral biases, portfolio investors, portfolio strategies, decision making.

J E L Classification: G40, G41, G19, O16.

Abstract: Our paper explored the impact of demographic variables on the manifestation of behavioral biases among Nepalese portfolio investors as they make investment decisions. Our research analyzed the relationship between age, gender, and experience, and five common biases such as overconfidence, anchoring, herding, loss aversion, and hindsight. Our survey of 132 investors revealed that demographic factors play a role in the presence of these biases, with female investors exhibiting higher overconfidence and anchoring biases, while male investors displayed loss aversion, herding, and hindsight biases. Younger investors were found to be more overconfident and prone to loss aversion, whereas more experienced investor demonstrated greater overconfidence in their analysis skills. This paper provides crucial insight into the importance of consid-

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ering demographic factors in addressing investment decision-making biases. It's worth noting that the responses and sample location may not be fully representative.

Introduction

Behavioral finance delves into psychological factors and cognitive biases to uncover how thoughts and emotions shape financial choices and affect market prices (Statman, 1999). It seeks to explain market inefficiencies by considering psychological biases rather than dismissing them as random deviations from the efficient market hypothesis (Fama, 1998). The allure of finance lies in its ability to decipher and forecast the sway of emotional decision-making on financial markets (Sewell, 2007). Behavioral finance also examines various behavioral biases that affect decision-making (Shefrin, 1998). A bias is a predisposition to make decisions based on underlying beliefs or prejudices, rather than objective facts (Shefrin, 2007). By understanding behavioral biases, investors can make better investment decisions, maximize returns, minimize risk, and have better financial planning (Wamae, 2013; Bashir, Azam, Butt, Javed & Tanvir, 2013).

There have been numerous studies that have focused on various behavioral factors such as herding, prospecting, risk aversion, anchoring, overconfidence, loss aversion, framing, and status quo bias (Sukanya & Thimmarayappa, 2015) and other studies have analyzed the impact of demographic factors on investor biases (Jamshidinavid, Chavoshani & Amiri, 2012; Bashir et al., 2013; Bakar & Yi, 2015; Onsomu, 2015) as well as the impact of behavioral biases on portfolio investor decision-making based on demographic factors (Subash, 2012). Despite the numerous studies that have explored the relationship between demographic factors, biases, and decision-making in the Nepalese stock market, there have been relatively few studies on biases among Nepalese portfolio investors. This paper is the first of its kind to analyze the influence of overconfidence, herding, anchoring, hindsight and loss aversion bias on the decision-making of Nepalese portfolio investors, while also considering impact of age, gender, and experience thus fills a gap in the literature by examining the relationship between behavioral biases and demographic factors in the context of Nepalese portfolio investors. The paper examines the following questions: (1) Do age, gender, and experience of investors have a relationship with behavioral bias? and (2) What groups of investors (age, gender, and experience) are more susceptible to bias while making investment decisions?

Literature review

Behavioral finance delves into the psychological underpinnings of financial choices, uncovering the factors that shape financial decision-making. According to Sewell (2007), it is the study of how psychology affects the behavior of financial professionals and the resulting impact on markets. It examines into the ways in which emotions and cognitive errors can shape the actions of individual investors (Kengatharan & Kengatharan, 2014; Alwahaib, 2019). Empirical research, such as that conducted by Bashir et al. (2013) have shown that investors are not always as rational as economic theories suggest, and thus behavioral finance aims to explain this. Research in behavioral finance often draws from the study of cognitive psychology, which examines how people process and use information to make decisions. Gitman and Joehnk (2008) suggests that behavioral finance researchers hold the view that investors' attitude and choices can cause them to excessively react to certain financial data and not react enough to others, resulting in illogical decision making and dangerous risk-taking actions.

One aspect of behavioral finance is the heuristics theory, which involves using "rules of thumb" or common sense to solve problems and simplify the decision-making process (Jordan, Miller & Dolvin, 2012). This can lead to biases and cognitive errors, resulting in predictable, non-optimal choices in the face of uncertain and difficult decisions. Factors such as the availability bias, conservatism, overconfidence, and herding have all been identified as part of the heuristics theory (Wamae, 2013).

Several studies have explored the impact of psychological factors on investment decisions made by investors in various stock markets globally. Some of the behavioral biases that have been identified in these studies include optimism bias, overconfidence bias, regret aversion bias, and hindsight bias (Kahneman & Riepe, 1998). Tripathy (2014) found that investors in the Bhubaneshwar Stock Exchange were influenced by anchoring, overconfidence, regret, and loss aversion biases. Chin (2012) found that conservatism bias, regret, and overconfidence had a significant impact on investment decisions of investors in the Malaysian stock market with no effect of herding behavior. Further, Jain et al. (2022) incorporated a multi-stage scale development methodology, includingextensive literature review and interviews with stockbrokers to develop a comprehensive, reliable and valid scale for measuring the behavioural

biases affecting investors' decision-making process and found that behavioural biases is a multidimensional phenomenon that significantly affects investors' decisions and has different dimensions, namely, Representativeness Bias, Availability Bias, Market Factors, Anchoring, Herding, Overconfidence Bias, Regret Aversion, Mental Accounting, Loss Aversionand Gamblers' Fallacy.

Likewise, other studies have investigated the relationship between individual investor decision making and behavioral biases in various countries (Rostami & Dehaghani, 2015; Ady, 2018). Some studies have found that psychological factors such as overconfidence and herding behavior can have a significant impact on investors' decision making (Bashir et al., 2013; Wamae, 2013). However, other studies (Kengatharan & Kengatharan, 2014) found that overconfidence can have a negative impact on decision making. The impact of herding behavior on decision making has been mixed, with some studies finding a positive impact (Wamae, 2013; Kengatharan & Kengatharan, 2014) and others finding showed no significant impact (Chin, 2012). Bashir et al. (2013) also found that loss aversion had a significant relationship with investors' decision making, but with no impact. Furthermore, Calzadilla, Bordonado-Bermejo and González-Rodrigo (2021) analyzed biases in decision-making by ordinary investors while considering socio-economic variables through a systematic review and meta-analysis and found that the literature evidence was mixed with that of institutional investors. They further added that the socio-economic evidence in the literature review regarding gender, age, studies, and geography was limited and incomplete.

There is also a lack of research on the relationship between demographic factors and behavioral biases of portfolio investors in developing countries, particularly in Nepal. Previous studies conducted in Nepal, such as (Adhikari, 2010; Dhungana, Bhandari, Ojha & Sharma, 2020) have focused on the general behavioral finance factors that impact individual decision making, but there is a need for more research on the impact of demographic factors on the behavioral biases of portfolio investors. This paper fills this gap in the literature by examining the impact of five basic biases (herding, loss aversion, overconfidence, anchoring, and hindsight bias) on portfolio investors' decision making in relation to three demographic variables (age, gender, and experience) in Nepal.

Based on an examination of existing research and theoretical framework used in this paper, hypotheses were formulated to address the main research question and issue.

H1: *There is a noteworthy association between an individual's age and the biases that influence their investment decisions.*

H2: *There is a strong connection between one's gender and the tendency for investor bias.*

H3*: Investors who have more experience are likely to be more or less overconfident than those who lack experience.*

H4*: Younger investors are more or less inclined to show herd-like behavior.*

H5: *Younger investors tend to be more or less anchored in their decision-making compared to those with more experienced investors.*

H6: *Younger investors tend to be more or less to exhibit the loss aversion bias.*

H7: *Young investors tend to be more or less to exhibit the hindsight bias.*

Research methods

This paper used a researcher-administered questionnaire survey to examine the impact of five biases (herding, overconfidence, hindsight, anchoring bias and loss aversion) on portfolio investors based on their age, gender, and experience using various statistical tools and techniques, including descriptive analysis, discriminant analysis, weighted scoring method, chi-square test for independence, t-test, and cross tabulation and the research was descriptive in nature. In order to determine the number of investors in Nepal, the paper collected responses from a minimum of 120 respondents using a rule of thumb from Roscoe (1975), ultimately obtaining responses from 132 investors. This paper collected primary data using a questionnaire that was distributed to investors who had invested in multiple sectors. The questionnaire contained two sections, one for demographic variables and the other for behavioral factors, and included questions on five biases (overconfidence, herding, anchoring, hindsight, and loss aversion) using a 3-point Likert scale. The sample profile was formulated considering age, gender, and number of years of experience of respondents in the stock market. Data were collected from multiple brokerage firms in Kathmandu areas during trading hours by visiting each location and providing assistance to respondents with explanations of the questions as needed in order to obtain the desired number of responses. A pilot study was conducted to ensure validity of the research instrument by identifying and modifying ambiguous or irrelevant information and the questionnaire was pretested with 20 respondents to assess clarity.

Analysis and results

Majority of respondents were between the ages of 26 and 35 (58% of the total population), male (61% of respondents), educated and from a financial background (68% of respondents), self-employed (36% of respondents), and had less than 5 years of investment experience in the Nepalese stock market (53% of respondents). The majority of respondents were income-earning individuals, with 36% being self-employed, 33% being employed, and 30% being students. Only 3% of respondents were unemployed and relying on the stock market as their main source of income. These demographics suggest that the Nepalese stock market is mostly comprised of young, male, financially knowledgeable individuals who are actively earning an income.

Likert scale statements that used to measure biases were found reliable, as the Cronbach alpha values for all five biases were above 0.6, indicating consistency in the responses.

Table 1. Cronbach's alpha value

Statement	Noofstatements	Cronbach'salpha
Overconfidencebias	4	0.785
Lossaversionbias	2	0.741
Anchoringbias	2	0.689
Hindsightbias	2	0.756
Herdingbias	3	0.825

S o u r c e : Compiled by Author.

Discriminant Analysis results showed that demographic factors were effective in categorizing investors, with female investors showing higher levels of overconfidence, male investors being more prone to loss aversion, herding, and hindsight biases, and experienced investors exhibiting higher levels of loss aversion, herding, and hindsight biases. On the other hand, young investors showed higher levels of overconfidence and anchoring biases. The results were supported by statistical evidence and p-values, with the p-values for each bias all being less than 0.05 as shown in Table 2, indicating noteworthy disparity in the behavioral patterns of investors with different characteristics.

Table 2. Discriminant analysis: Group statistics (Panel A) and Equality of group means (Panel B) for gender, Age group and Experience

Panel A											
		Overconfidence		Loss aversion		Hindsight bias		Anchoring bias		Herding bias	
		Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Gender	Male	1.853	0.437	2.094	0.776	2.056	0.595	1.319	0.375	2.383	0.621
	Female	2.197	0.449	1.664	0.752	1.731	0.414	1.481	0.542	2.039	0.728
Age Group	15-25	2.375	0.441	1.4	0.503	1.55	0.359	1.375	0.275	1.483	0.653
	26-35	2.053	0.403	1.888	0.798	1.908	0.558	1.461	0.528	2.272	0.659
	36-45	1.571	0.412	2.5	0.689	2.071	0.427	1.262	0.34	2.635	0.348
	Above 46	1.733	0.372	2	0.732	2.333	0.588	1.167	0.244	2.6	0.314
Experience	<5year	2.239	0.427	1.514	0.625	1.693	0.484	1.529	0.51	1.919	0.745
	>5year	1.706	0.343	2.387	0.704	2.194	0.507	1.218	0.309	2.618	0.335
Panel B											
		Wilks Lambda	F	Wilks Lambda	F	Wilks Lambda	F	Wilks Lambda	F	Wilks Lambda	F
Gender		0.872	19.10	0.929	9.928	0.917	11.81	0.969	4.12	0.939	8.474
		(0.00)		(0.002)		(0.001)		(0.044)		(0.004)	
Box's M Test (Gender)	25.557										
	(0.038)										
Wilks' Lambda (Gender)	0.843										
	(0.001)										
Age Group		0.728	15.97	0.846	7.751	0.856	7.2	0.945	2.46	0.727	16.04
		(0.00)		(0.00)		(0.00)		(0.066)		(0.00)	
Box's M Test (Age Group)	84.201										
	(0.004)										
Wilks' Lambda (Age group)	0.546										
	(0.00)										
Experience		0.678	61.64	0.695	56.93	0.794	33.67	0.882	17.38	0.738	46.26
		(0.00)		(0.00)		(0.00)		(0.00)		(0.00)	

Table 2. Discriminant...

Panel A											
		Overconfidence		Loss aversion		Hindsight bias		Anchoring bias		Herding bias	
		Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Box's M Test (Experience)	68.986										
	(0.006)										
Wilks' Lambda (Experience)	0.539										
	(0.00)										

S o u r c e : Compiled by Author.

Bias specific analysis and hypothesis testing

Overconfidence was measured through 4 questions with a weighted score calculated using a 3-point Likert scale. Anchoring was assessed by 2 questions, while herding was evaluated by 3 questions using the same scale. Loss aversion was measured by 2 questions, and hindsight was assessed by 2 questions using the 3-point Likert scale which were then compared to a reference score. The reference score is determined by assuming a sample in which all participants scored at the midpoint of the neutral range on the Likert scale and were found 22. These questions helped determine the extent of biases in the decision-making process of portfolio investors.

a) Overconfidence bias

First question was: "Are you an expert in stock market?" Second question was:" How would you rate yourself as a trader compared to others in the market?" Third question was: "What do you consider is the cause when the stock you bought goes up in value?" Fourth question was: "To what extent have your investment choices been validated as accurate?"

The results from Table 3 shows that the majority of investors have complete knowledge of the Nepalese stock market and a small percentage have no knowledge. Both young and experienced investors have similar levels of knowledge. The mean score of both groups is higher than the reference score, indicating a tendency towards overconfidence bias when making investment decisions.

This suggests that there is no significant difference in overconfidence bias between young and experienced investors. The majority believe that their portfolio performance is based on a combination of investment skill and luck. However, both groups also show overconfidence bias, with the majority believing their decisions are correct between 50-80%.

Table 3. Cross tabulation table and weighted scoring

		Less than 5 years		More than 5 years	
		Count	**% within investor type**	**Count**	**% within investor type**
Overconfidence bias I	Yes	3	4.3	10	16.1
	Almost	20	28.6	44	71
	No	47	67.1	8	12.9
	Total	70	100	62	100
Weighted Score		96		126	
Mean		16		21	
Outcome		No overconfidence		No overconfidence	
Overconfidence bias II	Above Average	9	12.9	28	45.2
	Average	50	71.4	34	54.8
	Below Average	11	15.7	0	0
	Total	70	100	62	100
Weighted Score		138		152	
Mean		23		25.33	
Outcome		Overconfidence			Overconfidence
Overconfidence bias III	Your Investment Skill	6	8.6	25	40.3
	Investment skill and luck	43	61.4	37	59.7
	Luck	21	30	0	0
	Total	70	100	62	100
Weighted Score		125		149	
Mean		20.83		24.83	
Outcome		No overconfidence		Overconfidence	
Overconfidence bias IV	>80%	9	12.9	19	30.6
	50%-80%	46	65.7	42	67.7
	<50%	15	21.4	1	1.6
	Total	70	100	62	100
Weighted Score		134		142	
Mean		22.33		23.67	
Outcome		Overconfidence		Overconfidence	

Source: Compiled by Author.

b) Anchoring bias

First question was: "Do you set a desired price point before the market opens for the day?"Second question was: "Given the current price of DEF share at Rs 100, after a steep drop from Rs 500, analysts are giving a hold signal. Is it worth investing in the stock in this situation, especially considering its previous high?"

Most investors tend to set a specific price range for buying or selling shares, according to the survey results. Over 50% of respondents said that they set a price limit, with 44% of young investors and 71% of experienced investors saying that they do. 22% of young investors and 29% of experienced investors responded "Sometimes". These results indicate that investors are prone to anchoring bias, as their mean score is higher than the reference score. Both young and experienced investors exhibit this bias, with no significant difference noted between the two groups. Additionally, over 50% of both young and experienced investors consider past information when making buy or sell decisions, with only 1% saying that they do not. This also suggests that both groups are influenced by anchoring bias, as their mean score is higher than the reference score.

Table 4. Cross tabulation table and weighted scoring

		Less than 5 years		More than 5 years	
		Count	% within investor type	Count	% within investor type
Anchoring bias I	Yes	31	44.3	44	71
	Sometimes	24	34.3	18	29
	No	15	21.4	0	0
	Total	70	100	62	100
Weighted Score		156		168	
Mean		26		28	
Outcome		Anchoring		Anchoring	
Anchoring bias II	Yes	51	72.9	54	87.1
	Sometimes	18	25.7	7	11.3
	No	1	1.4	1	1.6
	Total	70	100	62	100
Weighted Score		198		177	
Mean		31.67		29.5	
Outcome		Anchoring		Anchoring	

S o u r c e : Compiled by Author.

c) Herding bias

First question was: "Will you put your money in a stock even if your own assessment of it does not align with the views of a renowned expert in the financial news sector? "Second question was: "Would you invest in company X's stock if you had only a basic understanding of it, but saw that many of your peers were investing in it? "Third question was: "Whose judgment do you trust more?"

The results of a survey on investor behavior in Nepal showed that among young investors, 49% would not invest in a stock if it differed from a well-known expert's valuation and 46% said maybe. In contrast, 69% of experienced investors responded "Maybe" and 21% responded "Definitely". The data indicates that young investors are more prone to herding bias than experienced investors. The results also showed that over 50% of young investors would invest in a stock despite limited knowledge, but most experienced investors would not. The majority of respondents, both young and experienced, trusted their own judgment over that of the media or experts. The results suggest that Nepalese portfolio investors do not blindly follow the actions of others, but rather analyze investment options carefully before making decisions. However, young investors are more likely to be influenced by herding bias compared to experienced investors.

Table 5. Cross tabulation table and weighted scoring

		Less than 5 years		More than 5 years	
		Count	% within investor type	Count	% within investor type
Herding bias I	Never	34	48.6	6	9.7
	Maybe	32	45.7	43	69.4
	Definitely	4	5.7	13	21
	Total	70	100	62	100
Weighted Score		170		117	
Mean		28.33		19.5	
Outcome		Herding		No Herding	
Herding bias II	Yes	32	45.7	1	1.6
	Maybe	0	0	0	0
	No	38	54.3	61	98.4
	Total	70	100	62	100
Weighted Score		198		177	
Mean		31.67		29.5	
Outcome		Herding		No Herding	

Table 5. Cross...

		Less than 5 years		More than 5 years	
		Count	% within investor type	Count	% within investor type
Herding bias III	Media/Expert	26	37.1	6	9.7
	Friend/Relative	11	15.7	2	3.2
	Self	33	47.1	54	87.1
	Total	70	100	62	100
Weighted Score		133		76	
Mean		22.17		12.67	
Outcome		Herding		No Herding	

S o u r c e : Compiled by Author.

d) Loss aversion bias

First question was: "Do you tend to stick with a bad stock despite your original investment decision being wrong, in the hopes of a recovery? "Second question was: If you purchased stock in XYZ Hydro based on the belief that its value would increase in the future, but the stock price instead decreases due to a top management conflict, what would you likely do?

The results of a survey on investor behavior show that over 50% of young investors hold onto losing stocks in hopes of a turnaround, while the majority of experienced investors do not. Young investors are also more likely to be influenced by loss aversion bias. The data shows that 73% of young investors and 37% of experienced investors would hold onto a stock whose value decreased due to top management conflict. The results suggest that young investors with less than 5 years of experience are more likely to be influenced by loss aversion bias compared to experienced investors.

Table 6. Cross tabulation table and weighted scoring

		Less than 5 years		More than 5 years	
		Count	% within investor type	Count	% within investor type
Loss aversion bias I	Always	38	54.3	4	6.5
	Sometimes	22	31.4	21	33.9
	Never	10	14.3	37	59.7
	Total	70	100	62	100
Weighted Score		168		91	
Mean		28		15.167	
Outcome		Loss aversion		No loss aversion	
Loss aversion bias II	Hold the stock	51	72.9	23	37.1
	Buy more	8	11.4	1	1.6
	Sell the stock	11	15.7	38	61.3
	Total	70	100	62	100
Weighted Score		180		109	
Mean		30		18.167	
Outcome		Loss aversion		No loss aversion	

S o u r c e : Compiled by Author.

e) Hindsight Bias

First question was: When your portfolio performs worse than expected, do you feel like you knew it would happen and that you should have sold some of your stocks? Second question was: "If someone had informed you in 2006 or 2007 that a financial crisis was going to occur the following year, would you have believed them?"

The study showed that when portfolios underperform, many Nepalese investors experience regret over not selling their stocks. 67% of young investors and 29% of experienced investors said they frequently feel this way, while 30% of young investors and 49% of experienced investors said they sometimes do. This highlights a false sense of security in investment decision-making. The results also revealed that young investors with less than 5 years of experience are more likely to be influenced by hindsight bias, as indicated by their lower mean score compared to the reference score. On the other hand, experienced investors are less prone to this bias. The results of another question showed that 64% of young investors and 48% of experienced investors would have answered "Maybe" to a hypothetical scenario, while 19% of young investors and 48% of experienced investors would have answered "No" and 17% of young in-

vestors and 4% of experienced investors would have answered "Yes". This further supports the idea that young investors are more likely to be influenced by hindsight bias in their investment decisions compared to experienced investors.

Table 7. Cross tabulation table and weighted scoring

		Less than 5 years		More than 5 years	
		Count	% within investor type	Count	% within investor type
Hindsight bias I	Often	47	67.1	18	29
	Sometimes	20	28.6	30	48.4
	Never	3	4.3	14	22.6
	Total	70	100	62	100
Weighted Score		184		128	
Mean		30.67		21.33	
Outcome		Hindsight		No Hindsight	
Hindsight bias II	Yes	12	17.1	2	3.2
	Maybe	45	64.3	30	48.4
	No	13	18.6	30	48.4
	Total	70	100	62	100
Weighted Score		139		96	
Mean		23.167		16	
Outcome		Hindsight		No Hindsight	

S o u r c e : Compiled by Author.

Chi-square test

Investment biases were analyzed in both experienced and young investors with tests conducted at 95% confidence interval. The findings reveal that while experienced investors tend to have more overconfidence, resulting in riskier investments and poor portfolio performance, young investors display greater anchoring and herding biases, causing them to make decisions based on the crowd and past outcomes, leading to loss aversion and hindsight bias. These results suggest that young investors are more prone to various biases and face greater risks in their investment portfolio.

Table 8. Chi-square test

Overconfidence bias			
Chi-square	value	df	asymp. Sig. (2-sided)
Q1 Vs Experience	40.086	2	0
Q2 Vs Experience	23.405	2	0
Q3 Vs Experience	32.731	2	0
Q4 Vs Experience	15.576	2	0
Anchoring bias			
chi-square	value	df	asymp. Sig. (2-sided)
Q1 Vs Experience	17.691	2	0
Q2 Vs Experience	4.457	2	0.108
Herding bias			
Chi-square between:	value	df	asymp. Sig. (2- sided)
Q1 Vs Experience	25.587	2	0
Q2 Vs Experience	34.105	1	0
Q3 Vs Experience	23.401	2	0
Loss aversion bias			
Chi-square test	value	df	asymp. Sig. (2-sided)
Q1 Vs Experience	42.73	2	0
Q2 Vs Experience	30.544	2	0
Hindsight bias			
Chi-square test	value	df	asymp. Sig. (2-sided)
Q1 Vs Experience	21.651	2	0
Q2 Vs Experience	16.439	2	0

S o u r c e : Compiled by Author.

t-test for individual biases

The responses were analyzed based on investors' experience using weighted scoring and chi-square tests. The results were inconsistent and 3-point Likert scale responses were combined to form 5 variables highlighting biases. A t-test was then conducted to compare the mean differences between investors with less than 5 years of experience and those with more than 5 years of experience. We tested hypotheses again using these combined variables.

Table 9. *t-test*

Biases	t	Df	Sig.(2-tailed)
Overconfidence	7.851	130	0.00
Anchoringbias	4.170	130	0.00
Herdingbias	-6.802	130	0.00
Lossaversion	-7.545	130	0.00
Hindsightbias	-6.802	130	0.00

S o u r c e : Compiled by Author.

The t-test results indicate a significant difference in the mean of behavioral biases between young and experienced investors. Young investors tend to have anchoring bias, while experienced investors have poor decision-making. Additionally, younger investors are susceptible to herding and loss aversion, while experienced investors are not. The results support the hypothesis that investor experience influences exposure to behavioral biases in the Nepalese stock market.

Discussion

The paper uncovered a link between demographic variables and behavioral biases and revealed a role in the manifestation of behavioral biases in Nepalese portfolio investors. Group statistic and Equality of group mean testindicated that female investors tend to exhibit higher levels of overconfidence and anchoring biases, while male investors tend to exhibit higher levels of loss aversion, herding, and hindsight biases. This finding is consistent with the work of Levišauskaitė and Kartašova (2011) and Lee, Miller, Velasquez and Wann (2013), but contradicts previous research by Jaiswal and Kamil (2012), Onsomu (2014), and Willows and West (2015) who found that men were more overconfident than women. Younger investors tend to exhibit more overconfidence and loss aversion biases, while experienced investors tend to be more overconfident, aligning with research by Lin (2011), Zaidi and Tauni (2012), Murithi (2014) but contradicting the findings of Qadri and Shabbir (2014) who found no relationship between experience and overconfidence, and Bashir et al. (2013)

who found experienced investors to have high herding behavior. Younger investors tend to exhibit more herding, hindsight, anchoring, and loss aversion biases, as found by Lin (2011) and Shusha and Touny (2016), but going against the findings of Dhar and Zhu (2006) who found that experience reduces exposure to loss aversion bias. Similarly, Kanojia, Singh and Goswami (2022) also reported no clear evidence of herding behavior in the Indian stock market, largely due to the dominant role played by institutional investors and the relatively low level of participation by individual investors. However, a study by Kartini and Nahda (2021) conducted in Indonesia discovered that cognitive biases such as anchoring bias, loss aversion, overconfidence bias, and herding behavior have a significant impact on investors' decision-making processes.

Wilks' Lambda was used to determine the relationship between age, gender, and experience with the overall set of biases. The analysis showed that there is a significant relationship between these variables and the biases exhibited by portfolio investors. This finding is consistent with the research of Bakar and Yi (2015) but contradicts the findings of Lee, Wang, Kao, Chen and Zhu (2010) and Gloede and Menkhoff (2011) who found that age and gender do not significantly affect investment behavior.

Conclusion

The paper explored the impact of demographic factors on investors' behavioral biases in Nepal's stock market. It was found that gender, age, and experience can impact the biases exhibited by investors, with females showing more overconfidence and anchoring biases, and males being affected by loss aversion, herding, and hindsight biases. Younger investors exhibited more herding, hindsight, anchoring, and loss aversion biases, while experienced investors showed higher levels of overconfidence. This suggests that while experienced investors may have an overestimation of their abilities, young investors may be more prone to being influenced by biases in their investment decisions.

The paper highlights the need for investors, both young and experienced, to be mindful of their biases and how they may impact their investment decisions. By gaining a deeper understanding of these biases, young investors can improve their portfolio outcomes, while experienced investors can maintain their edge in the market. The findings of this study can also be used by financial advisors to tailor portfolios for their clients, by security analysts to

make informed recommendations, and by financial strategists to make accurate market forecasts. Overall, the paper underscores the importance of behaviorally-informed investing in the Nepalese stock market. However, it's important to note that the study's results may be limited by the sample's location and respondents' mood. Additionally, this paper suggests that there is a need for further research on the remaining 15 behavioral biases identified by Pompian (2006) in similar studies.

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