

An Empirical Study of Investor Attitudinal Factors Influencing Herd Behavior: Evidence from Pakistan Stock Exchange

Faid Gul and Karamat Khan

National University of Modern Languages (NUML), Islamabad

Abstract

Behavioral Finance is an evolving field that studies how psychological factors affect decision making under uncertainty. Herding behavior is one of the psychological factors that instigate investor to mimic the actions of other investors in the market rather than using his personal assessments. This study seeks to find the influence of certain attitudinal factors namely, decision conformity, hasty decision, mood, decision accuracy and overconfidence, on the individual investor tendency to embrace herd behavior. Primary data for the study are collected using structured questionnaires from a sample of 194 investors who are trading at Islamabad and Lahore branches of Pakistan Stock Exchange. Multiple linear regression analysis is used to test the hypotheses of this study. Findings of this study provide evidence that attitudinal factors have significant influence on investor's tendency to take on herd behavior. It is concluded from the results of multiple linear regression that decision conformity, mood and decision accuracy have significant impact on individual investor tendency to adopt herd behavior. However, investor hasty decision and overconfidence are insignificant predictors of herd behavior.

Keywords: Decision conformity, Hasty decision, Mood, Decision accuracy, Overconfidence, Herd behavior

Conventional finance school of thought attempts to explain investor's behavior in an ideal world in which investors are always assumed to be logical and rational in arriving at investment decisions. Conventional finance is based on the work of Markowitz (1952) Modern Portfolio Theory, Sharpe (1964), Lintner (1975), Black, Jensen and Scholes (1972); Capital Asset Pricing Model; Modigliani and Miller Theorem (1958); and the option-pricing theory of Black and Scholes (1973). All these models assume investors are rational, having same expectations and markets are efficient. Fama (1970) states that efficient market is the one in which securities prices always fully reflect all available information and there are no arbitrage opportunities to beat the market because all information is already incorporated in securities prices. Expected utility theory (EUT) described that investor behave rationally in his decision making by selecting the decision which provides maximum utility and minimum risk in order to reach optimal decision (Neumann & Morgenstern, 1944). According to Barberis and Thaler (2003) rationality means correct updating of beliefs according to new information and making decision which are normatively acceptable and consistent with expected utility theory.

Kahneman and Tversky (1979) on the other hand, criticize expected utility theory as a descriptive model of decision making under risk, and presented Prospect Theory. Prospect theory states that people underweight consequences that are simply probable in comparability with consequences that are received with certainty, when investors confront alternatives with "certain gains" they exhibit risk averse behavior and in case of "certain loss" they becomes risk seeker which is contradictory with the principles of expected utility theory. Thus psychological elements of investors are responsible for the deflection of actual decision making from rationality. According to Shiller (1999) these deviations indicate that principles of rational behavior underlying efficient market hypothesis are not completely correct as a model for decision making. So prospect theory affirms Simon's (1957) concept of the bounded rationality.

In the 1980s, behavioral finance comes forth as a new concept merging behavioral and psychological views in economic and financial decision making. Behavioral finance challenges the idea that investors are rational, as described by conventional finance, while arriving at investment decisions; rather behavioral biases have significant effect on their investment decisions. Barberis and Thaler (2003) state that behavioral finance models can help to understand certain financial phenomena when it is taken under consideration that peoples are not always and fully rational in their decision making process.

Herd behavior is one of the psychological biases which influence investor's decision making process and contradicts with rationality assumption of standard finance. Herding happens when investors simulate the market consensus rather than utilizing their personal assessments. An imitating behavior in the stock market influences not only investor's wealth but economic stability (Ko & Fujita 2018). Bikhchandani, Hirshleifer and Welch (1992) refer to herding behavior as "imitation behavior resulting from individual factors and often leading to inefficient outcomes for the market as a whole." Theriou, Mlekani and Maditinos (2011) state that "herding is the tendency of investors to imitate each other's decisions."

Herding behavior can both be rational and irrational (Bikhchandani & Sharma 2001). Herding is rational when investor's actions are deliberate and irrational when actions of the investor are non-deliberate as because he neglects his personal opinion and blindly follows others investors investment decisions (Devenow & Welch, 1996). Zhang and Liu (2012) state that irrational herding happens when investor passively follows other investors' actions as a descriptive social norm. On the other hand, rational herding occurs as a consequence of observational learning among investors. However, Walter and Weber (2006) define this phenomenon in terms of spurious herding (intentional) and true herding (unintentional); according to them spurious herding occurs when investor purposefully follows others' behavior and true herding happens when investors sharing same piece of information unintentionally reach to similar decision to respond an identical problem.

Historical literature in the field of herd behavior has been divided into three strands. The first strand of studies focuses on finding evidences of herd behavior in financial markets. Most of these studies confirm that herd behavior not only exists in financial markets but is also more common in emerging markets. The second stream of studies focuses on the point that how and why individual and institutional investors herd behavior is different. Lastly, the third strand of studies focuses on the causes of herd behavior in financial markets. The jury on this stream of studies is still out and brings new insights to explain investors herd behavior in financial markets. Most of the literature on this area of herd behavior is theoretical in nature where strong theoretical foundations are laid down to explain this phenomenon. However, the empirical studies are limited to test the theories put forward by different scholars. This is particularly true regarding emerging financial markets e.g. Pakistan (Gul & Akhtar, 2016). This study is an attempt to provide empirical evidence on the possible causes of herd behavior in Pakistan.

The field of behavioral finance is relatively new therefore limited research is available on it in the world, in general, and in developing economies, in particular. Most of the literature is available on testing the presence or absence of different behavioral biases in investor's investment decision making. However, there is limited literature available on the factors that cause such biases or irrationality in investment decision making. The current study shifts the focus from testing the presence or absence of such behavioral biases to the fundamental factors causing the biases. This study links the herd behavior of an individual investor to different attitudinal factors e.g. conformity, hasty decision, mood, decision accuracy and overconfidence. The findings of the study show that conformity, mood and decision accuracy are the significant predictors of herd behavior in Pakistani investors while hasty decisions and overconfidence are statistically insignificant. The findings are in general support of the behavioral finance theory as making decisions in hurry (hasty decision) or when investors are overconfident then they don't follow the herd. However, when investors want to increase the accuracy of their decisions, ensure conformity or their temporary state of mind (mood) flows with other investors then they follow the herd behavior. As the above stated attitudinal factors are, generally, more dominant in crisis situation therefore, the current study contributes to the existing theory of herd behavior in the way that herd behavior is not uniformly followed by investors in investment decision making. In market boom and crisis situation the herd behavior will be different as different attitudinal factors are dominating in such conditions. In boom quick decision making and overconfidence dominate while in crisis situation conformity, decision accuracy and the temporary state of mind (mood) are dominating.

Literature Review

Malik and Elahi (2014) analyze evidence of herd behavior in Karachi Stock Exchange. Their results reveal that herd behavior is present in all market conditions including normal, up and down market conditions. Lai and Liao (2013) examine evidence of herding behavior in six Asia – Pacific Stock Markets. Their study proposes that herding behavior is more prominent for developing countries where markets are led by individual investors and daily price limits are observed. Balcilar, Demirel and Hammoudeh (2013) examine evidence of herd behavior in Gulf and Arab Stock Markets (Abu Dhabi, Dubai, Kuwait, Qatar and Saudi Arabia). All stock markets exhibit herd behavior during extreme market volatility except for Qatar stock market. The

Kapusuzoglu's (2011) study concludes that Istanbul Stock Exchange (ISE) National 100 Index exhibits herding behavior during both up and down market conditions. Al-Shboul (2012) uses both CH and CCK models to find evidence of herd behavior in Australian Stock Market during 2003 to 2010 period. Findings show presence of linear and nonlinear herding behavior for normal and stress market conditions using CCK model.

Chaffai and Imed (2018) found evidence of herd behavior in GCC stock markets. Results showed that herding behavior is more dominant in raising market conditions. Kabir and Shakur (2018) proposed that the driving force in investors' herding is the high level of volatility rather than the low returns during the period of market stress. Blasco, Corredor and Ferreruela (2017) while examining relationship between herd behavior and market volatility suggested that herd behavior is more dominant during market stress conditions. Chauhan *et al.* (2017) examined the evidence of herding behavior in Indian stock market. Their study concluded that herding behavior is less pronounced in stocks with large capitalization and high trading volume. Merli and Roger (2013) documented strong evidence of persistent herding behavior among French investors and the phenomenon is more common regarding the stocks in which they have traded in the past.

There is a long list of studies which reports the presence of herding behavior among investors in financial markets around the world. However, contrary to these studies, Ahsan and Sarkar (2013), Prosad, Kapoor and Sengupta (2012), Moradi and Abbasi (2012) and Patterson and Sharma (2005) find no evidence of herd behavior for Dhaka Stock Exchange, Indian Stock Exchange, Tehran Stock Exchange and NYSE, respectively.

Decision Conformity

Conformity is the tendency of an individual to change his attitude, opinion, belief or behavior in order to fit-in with the environment or group around him (Scher, Thompson & Morgan, 2007; Crutchfield, 1955). This change in belief or action can result from real group pressure which involves the physical presence or imagined group pressure which results due to social norms and expectations. Individuals align their actions and beliefs according to that standard, norms or practices which are accepted by majority of the people to prevent them from isolation. The literature on herd behavior and decision conformity is divided into two strands. The psychological literature proposes that an individual follows others behavior because of his intrinsic needs to conform (Asch, 1951; Sherif, 1937). However, the economic literature suggests an information-based model in which an individual ignores private information and follows his predecessors' decision because he thinks that following predecessors provide a best course of action (Banerjee 1992; Bikhchandani *et al.* 1992). Bikhchandani and Sharma (2001) state that investors may simulate other's actions because of their intrinsic inclination towards conformity. According to Baddeley *et al.* (2007) herding behavior is the product of social and behavioral factors and tendency to herd increases to the extent of consensus within the group. Results indicate that there is positive relationship between propensity to conformity and herd behavior. *In this study it is hypothesized that investor's decision conformity is a significant predictor of investor's herd behavior.*

Hasty Decision

Hasty decision is the one which is made without due consideration and attention. It can also be described as making decision promptly, quickly, or hurriedly without much reflection, information, examination, analysis or consultation. According to Shusha and Touny (2016) "hasty decision means that the reaction of an investor is too quickly to be accurate or wise. Hasty decision maker does not look for new information, choices and disregards short term and long term consequences." When individuals make decisions hurriedly they are susceptible to more mistakes and irrational conclusions because such decisions lack consideration of relevant information and analysis. In other words being hasty at time of decision making for investing is a factor that causes an individual not acts logically (Sajjadi & Lotfi 2017).

Researchers in the field of behavioral finance provided evidence that cognitive heuristics biases influence people's decision making and investors use these heuristics to quickly interpret the information and make decisions (Bondt & Thaler, 1985; Gilovich *et al.* 2002). Using heuristics accelerate the decision making process when compared with rational decision making. The most appealing part of this behavior is that time can be spared while the reliance is on past experience (Subash, 2012). Baddeley *et al.* (2010) propose that herding behavior is positively associated with impulsivity trait. This means that individuals with this trait use herd behavior as automated decision-making heuristic to decide quickly in uncertain conditions. Lin (2012) examines the relationship between investor's personality type and herding bias. Results indicate that impetuous investors are directly susceptible to herding bias. Shusha and Touny (2016) study also confirms that

hasty decision is a significant predictor of herd behavior. *In this study it is hypothesized that investor's hasty decision is a significant predictor of investor's herd behavior.*

Mood

In general, mood is defined as a temporary state of mind or feelings of an individual at a particular time or situation. It is usually indistinguishable, slower to change and object-less in the sense that people are unaware of the causes or source of the mood (Russell, 2003). Many studies propose that mood states can affect human decision making process either by influencing human judgment or behavior (Frijda, 1988; Schwarz & Bless, 1991). Behavioral finance researchers used biorhythms or some other proxies to assess the impact of mood on investors' decision making for example, games, weather changes, lunar effect, Sunshine etc. Findings of these studies showed significant effect of mood on stock prices, risk taking tendencies, investor trading behavior and stock returns. Grable and Roszkowski (2008) conduct a study to determine the influence of mood on individual's willingness to take risks in financial decisions. Findings reveal that investor happy mood was positively correlated with their willingness to take higher risks in financial decisions. Thach and Diep (2017) while examining impact of super-moon on Vietnam stock market return, showed that super-moon has effect on behavior of investors, thus effecting financial decisions. Wasiuzzaman and Al-Musehel (2018) examined the influence of mood and religious experience of Ramadan on Saudi and Tehran stock exchanges. Results pointed that investor mood and religious experience explain the existence of Ramadan anomaly. Schmittmann *et al.* (2014) study uses weather as proxy for mood and find that weather has significant impact on individual investor trading behavior. Yuan, Zheng and Zhu (2006) use lunar effect as proxy for mood to investigate the influence of investor mood on the stock returns. Results show strong impact of lunar phases on investor returns. Findings show that stock returns were low on the days around full moon than on days around new moon. Edmans, Garcia and Norli (2007) use soccer games as proxy for mood variable and analyze the impact of soccer game win/loss on stock market activity. They find strong evidence of decline in stock market after loss and this impact was more significant for small stocks. All these evidences show that mood has significant impact on investor's decision making. *It is, therefore, hypothesized in this study that investor's mood is a significant predictor of investor's herd behavior.*

Decision Accuracy

Shusha and Touny (2016) define the accuracy of decision as "the extent to which such a decision would agree with the optimal decision." An investor who analyzes the economic and financial situation of his portfolio will be able to make more accurate decision. Stock investment is regarded as a high-risk financial activity, in which life savings can be destroyed when investors fail to consider factors in stock price variation or do not master professional knowledge and experiences related to investment (Chen, Chen & Lu 2016). Good investment decision requires reflection of relevant information in decision making but processing information is a difficult job. Most investors have limited information processing and analysis capacities (Hillenbrand & Schmelzer, 2017). Investors only consider those stocks for purchasing which first grab their attention, because it is difficult to seek and process information for every stock they can potentially buy (Barber & Odean, 2008). Han *et al.* (2017) investigated the effect of investors' attention on commodity future prices using Google search as proxy for attention. Study concluded that greater attention is associated with improvements in information efficiency and eliminates the opportunities for arbitrage. Well informed investors with quality information are better able to diversify their portfolio assets with distinctive weights. However, the uninformed investor are unable to reproduce these optimal weights because of the lack of information that is why they end up holding a portfolio which is different from informed investors (Easley & O'Hara, 2004). But investors are always striving for improving the accuracy of their decisions. Investors with limited or no information follow the actions of informed investors to increase the success chances of their investment decisions.

It is hypothesized in the current study that investor's decision accuracy is a significant predictor of herd behavior.

Overconfidence

The overconfidence bias is the tendency of individuals to overvalue their capabilities to perform a task or make precise decisions. Gigerenzer, Hoffrage and Kleinbolting (1991) define overconfidence as "when the confidence judgments are larger than the relative frequencies of the correct answers." Allen and Evans (2005) argue that an overconfident individual believes that he

has more accurate information than actually he does. Overconfident investors are more likely to trade higher than other investors because of their greater confidence in correctness of judgments (Barber & Odean, 1999; Barber & Odean, 2002). Gervais and Odean (2001) propose a multi-period market model to assess that how an investor learn about his ability and how a bias in learning process can lead to overconfidence in investor decision making. Their study provides evidence that investors are more overconfident at the start of their career because of overestimating their abilities. However, with passage of time they become more experienced and their tendency toward overconfidence bias reduces as a result of better knowing their own abilities. In financial markets, this bias is exhibited in investor's behaviors when they overestimates the correctness of their private information and give little importance to publically available information which are received by all investors (Daniel, Hirshleifer & Subramanian, 1998). Investors consider themselves more competent, knowledgeable and skillful than other market participant that's why they prefer to act according to their own beliefs rather than following other market participants (Graham, Harvey & Huang, 2009; Deaves, Luders & Luo, 2008). Overconfident investors generally earn lower returns due to more frequent trading (Parveen & Siddiqui, 2018). Lin's (2012) study suggests that investors with anxious personality possess lower level of risk tolerance which leads toward herding bias. On the other hand, confident investors have high risk tolerance and they have lower tendency to follow herd's behavior. *In this study it is, therefore, hypothesized that investor's overconfidence is a significant predictor of investor's herd behavior.*

Research Hypotheses

- H₁: Investor decision conformity is a significant predictor of investor herd behavior.*
- H₂: Investor hasty decision is a significant predictor of investor herd behavior.*
- H₃: Investor mood is a significant predictor of investor herd behavior.*
- H₄: Investor decision accuracy is a significant predictor of investor herd behavior.*
- H₅: Investor overconfidence is a significant predictor of investor herd behavior.*

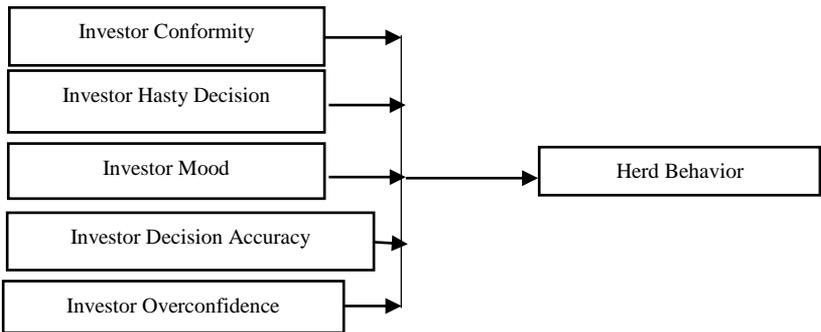


Figure. 1: Theoretical Framework for Herd Behavior Model

Research Methodology

Population and Sample Size

This study is focused on analyzing the impact of individual investor's attitudinal factors on herd behavior in Pakistani financial markets. Therefore, all individual investors participating in trading of securities in Pakistani stock exchanges constitutes as population for this study. The sampling technique of this study is a combination of both convenience and purposive sampling technique because primary data on variables of interest can only be collected from individual investors who trade securities in stock markets and are conveniently available.

Data and Instruments

Primary data for the study are collected, through a structured questionnaire, directly from individual investors who are trading at Islamabad Stock Exchange and Lahore Stock Exchange (branches of Pakistan Stock Exchange in these areas). To measure the extent to which individual investors adopt herd behavior because of decision conformity, hasty decision, mood, decision accuracy and investor overconfidence a five point Likert scale is used on which respondent can indicate their level of agreement with the statements ranging from Strongly Disagree to Strongly Agree. Items are coded with numbers from 1 to 5, if any reverse coded question is used it is

converted into same direction at data entry stage on SPSS. Instrument for all variables of interest are adapted from studies of Hoffmann, Von Eije, and Jager (2006), Shusha and Touny (2016), Charles and Kasilingam (2016) and from the study of Gul and Akhtar (2016). A total of 350 questionnaires are distributed keeping in view the non-response rate. Table 1 shows that after performing data screening, e.g. excluding missing data, outliers, and unengaged responses 194 valid questionnaires are used to test the hypotheses of this study. The valid sample size and response rate for this study are well above the minimum values suggested by Baruch (1999), Hair *et al.* (2006) and Tabachnick and Fidell (2007).

Table 1: *Statistics for Distributed Questionnaires*

Description	Lahore	Islamabad	Overall
Questionnaires distributed	200	150	350
Received back	167	82	249
Response rate	83.50%	54.67%	71.11%
Unengaged Responses	45	1	46
Questionnaires with missing responses	7	2	9
Outliers	0	0	0
Valid questionnaires	115	79	194

Data Analysis Methods and Econometric Equations

Multiple regression analysis is used to test the hypotheses of this study. The following multiple regression equation 1 is estimated using the data collected through survey questionnaire.

$$HB = \beta_0 + \beta_1(DC) + \beta_2(HD) + \beta_3(M) + \beta_4(DA) + \beta_5(OC) + \epsilon_i \dots \dots \dots Equ \# 1$$

Before testing the hypotheses of the research, the assumptions of the regression models are also tested. Validity, reliability, linearity, homoscedasticity, multicollinearity, autocorrelation and normal distribution of the residuals statistics are in the acceptable range using different tests suggested by historical research. The methodology is based on the best practices used in quantitative research across the world by researchers.

Results and Findings

Reliability of a measure can be defined as the extent to which a measure or instrument is free from error and produce consistent and stable results (Carmines & Zeller, 1979). Cronbach’s alpha is a widely used method to determine the internal consistency/ reliability of an instrument. Numerous studies provide cutoff points for acceptable alpha coefficient ranging from 0.5 to 0.9 (Altman, 1991; Kehoe, 1995). Table 2 reports Cronbach’s alpha coefficients for the variables of this study. The important point to note is that all coefficients fall within the acceptable range. For all the variables the values of Cronbach’s alpha are above 0.6 with a minimum value of 0.619 for investor mood and a maximum value of 0.714 for investor overconfidence.

Table 2: *Internal Consistency Reliability of Instruments*

Instruments	Cronbach's Alpha	N of Items
Decision Conformity	.620	5
Hasty Decision	.620	5
Mood	.619	6
Decision Accuracy	.633	5
Overconfidence	.714	7
Herd Behavior	.712	8

Before estimating our model, we carried out correlation analysis to check for multicollinearity problem between predictor variables. Correlations of predictor variables (Overconfidence, Hasty Decision, Decision Accuracy, Conformity and Mood) are presented in table 3. All correlations are weak to moderate, ranging between $r = .07$ and $r = .46$. Thus, analysis indicates that variables’ data do not suffer from multicollinearity problem.

Table 3: Pearson Correlation for Predictor Variables (N = 194)

	Decision Conformity	Hasty Decision	Mood	Decision Accuracy
Conformity	1			
Hasty Decision	.392**	1		
Mood	.121	.079	1	
Decision Accuracy	.358**	.196**	.377**	1
Overconfidence	.351**	.303**	.319**	.462**

** . Correlation is significant at the .01 level (2-tailed).

Empirical Hypotheses Testing

Multiple linear regression analysis is performed to find the combined impact of all five predictor variables (decision conformity, hasty decision, investor mood, decision accuracy and overconfidence) on predicted variable (investor herd behavior). Table 4 reports the value of regression coefficients with their standard errors, t-values, and p-values. The bottom part of the table reports the values of R, R², adjusted R², F-value and F-significance value. The coefficient of determination for the model is .491 which shows that the five predictor variables collectively explain 49.10% variation in investor herd behavior. F-value of the model is 36.22 which is statistically significant at a .01 level of significance. This shows the overall model fitness of investor herd behavior with all five predictor variables. Table 4 also reports the regression coefficients for all five predictor variables with investor herd behavior. The results of the multiple linear regression model support the first, third and fourth hypotheses at a statistical significance level of .01. For investor hasty decision and investor overconfidence statistical support is not found at any acceptable level of significance.

Table 4: Regression results of investor herd behavior model

Model	Unstandardized Coefficients Beta	Std. Error	Standardized Coefficients Beta	t-values	Sig.
(Constant)	.266	.253		1.052	.294
Conformity	.396	.053	.449	7.444	.000
Hasty Decision	.048	.053	.053	.917	.360
Mood	.245	.056	.251	4.394	.000
Decision Accuracy	.186	.060	.195	3.098	.002
Overconfidence	.047	.064	.046	.737	.462
R	.700	R ²	.491	Adj.R ²	.477
Durbin-Watson	1.638	F-Value	36.22	F-sig	.000

Discussion and Analysis

The first hypothesis of this study i.e. investor decision conformity significantly predicts the investor herd behavior, is accepted. The results of the current study are in line with both psychological as well as economic literature available on conformity and herd behavior. Both psychological and economic literature accepts that individuals imitate other actions, either because of their intrinsic needs or due to their belief that others have some privileged information in informational cascade models.

The second hypothesis of the study i.e. investor hasty decision is a significant predictor of investor herd behavior is rejected. The result of the current study is in contradiction with the findings of Shusha and Touny (2016). However, the direction of relationship is still positive. The possible reason for this result may be the difference in the attitude of investors living in different geographical locations.

The third hypothesis that investor mood is a significant predictor of investor herd behavior, is accepted. Behavioral finance researchers examined the role of mood in investor's decision making. However, limited or no research work is available to determine the role of investor mood as a predictor of investor herd behavior. Again, the results of this research are in accordance with historical literature (Shusha & Touny, 2016).

Decision made on the basis of authentic, reliable information and a thorough process of analysis of given circumstances which produces optimal results can be described as an accurate decision. Results of study at hand support the findings of Shusha and Touny (2016). When investor decision accuracy desire is higher he is more inclined to follow the herd. This result can be

explained with investor intentional herding phenomena. When the uncertainty of the situation is high, investor make assessment of his predecessors' actions in an attempt to draw private information from their actions. After analyzing and conforming the reliability and authenticity of information he changes his behavior in accordance to market conditions as an optimal strategy. Therefore, present study supports the fourth hypothesis that investor decision accuracy is a significant predictor of investor herd behavior.

Fifth hypothesis of this study i.e. investor overconfidence is a significant predictor of investor herd behavior is rejected. It is in accordance with the general theory that overconfident investors do not follow the herd (Shusha & Touny, 2016). However, beta coefficient is positive which indicates a direct relationship with predicted variable. This can be explained with a situation in which an overconfident investor having the same information like all other participants in the market reaches to decision which is identical to other investors' decision. According to Bikchandani and Sharma (2001) spurious or unintentional herding happens when all participants in the market observing same information reacts in the same direction.

Conclusion

This study aims to explore the attitudinal factors which instigate investor to adopt herd behavior in Pakistan Stock Exchange. We examine five attitudinal factors which include decision conformity, hasty decision, mood, decision accuracy and overconfidence. The results of the multiple regression model indicate that decision conformity, decision accuracy, and investor mood are the significant predictors of investor herd behavior. However, investor hasty decision and overconfidence do not significantly predict herd behavior. Investors who have tendency toward decision conformity are more inclined to follow herd behavior. Similarly, investor decision accuracy and mood variables are also statistically significant predictors of investor herd behavior. The beta coefficients of investor hasty decision and overconfidence are statistically insignificant at any acceptable level of statistical significance. The results of this study are in accordance with the historical literature available in this area.

Limitations and Future Research Directions

Since behavioral finance research is a relatively new area of research, especially in Pakistani financial markets, therefore much work is still to be done before coming up with credible conclusions and recommendations. This study is focused only on the causes of herd behavior among individual investors in Pakistani financial markets. The study uses survey method by collecting primary data from individual investors. This research method has its own limitations therefore in future secondary data proxies may be developed to the model. Future research can consider institutional investors in this regard. Data used in this study are collected only from Lahore and Islamabad trading offices. Future studies can use data from Karachi trading office which is the main office of Pakistan Stock Exchange. In this study only local investors participated in the survey. In future foreign investors may also be included in the sample and the results may be compared and contrasted for any deviations in the two sets of investors.

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