



AENSI Journals

## Journal of Applied Science and Agriculture

Journal home page: [www.aensiweb.com/jasa/index.html](http://www.aensiweb.com/jasa/index.html)

### The Effect of the Interaction between Demographic Factors and Personality Traits and Financial Behaviour Factors in Terms of Investment Decision Making

<sup>1</sup>Shahla Amiri, <sup>2</sup>Nooredin Razavizade, <sup>3</sup>Gholam Hosein Vahidi

<sup>1,2</sup>Department of Accounting, Kangavar Branch, Islamic Azad University, Kangavar, Iran.

<sup>3</sup>department of AccountinG, Malayer Branch, Islamic Azad University, Malayer, Iran.

#### ARTICLE INFO

Article history:

Received 19 October 2013

Received in revised form 16

November

2013

Accepted 19 November 2013

Available online 29 December 2013

Keywords:

Behavioral Finance, Demographic Factors, The Five Factor Model Of Personality, Overconfidence, Dispositioneffect, Herding;

#### ABSTRACT

The purpose of this study is to show that there is an interaction between the five personality traits and demographic factors with behavioral biases in investment decisions in Tehran Stock Exchange in 2011 .for evaluating the extreme impact of five characteristics(extraversion, Neuroticism, openness to experience, agreeableness, conscientiousness) and demographic variables (age, gender, education, residential area) on the investment's biases through structural equation modelling analysis (SEM),and through AMOS6 software. The results show that the investment biases in individual investigators has relationship with personal characteristics meaningfully and with some of the demographic variables weakly. Finally, it is also found that behavioral finance factors are effective in individuals' investment decisions.

© 2013 AENSI Publisher All rights reserved.

**To Cite This Article:** Shahla Amiri, Nooredin Razavizade, Gholam Hosein Vahidi., The effect of the interaction between demographic factors and personality traits and Financial Behaviour Factors in Terms of Investment Decision Making. *J. Appl. Sci. & Agric.*, 8(5): 721-728, 2013

#### INTRODUCTION

A behavioral finance perspective or school, which is made from psychological and financial integration, believes that psychology plays an important role in financial decision. Since cognitive errors and distortions impact investments' theories, therefore, they will also influence financial options.

Rational decision theory asserts that decision makers generate various strategies and follow specific logical procedures to resolve problems according to the nature of problem, timing, and decision environment (Huei lin,2011). Therefore, by access to necessary resources, investors are able to make more appropriate decisions. To achieve success, managers are required to make effective decisions. After, employment market hypothesis was in 1960s, the numerous studies have been conducted on such hypotheses and their significance on capital market. Traditional finance theory is based on the efficient market hypothesis (EMH) and that in an efficient market the stock prices can reflex all the information in the financial market thoroughly, so the general investors cannot earn abnormal returns by analyzing public information (Fama, 1970). Finally, Kahneman and Tversky have developed the applications of psychological knowledge in financial and economic sciences in a series of that they presented the theory of prospect in 1979 And proposed the prospect theory to explain decision-making behavior under uncertain circumstances. According to the prospect theory, psychological factors of investors will drive their actual decision-making process to deviate from rationality(Huei lin,2011). which is continued to Simon's (1957) argument of bounded rationality, Investors thus often simplify their decision processes and are prone to behavioral heuristics that might make systematic errors and lead to satisfac-tory investment choices, but does not maximize decision. So until the late 1980s some behavioral researchers found that the EMH cannot entirely explain the extraordinary phenomenon of the market and though of the investment decision were not completely rational. When investors face uncertain conditions, for benefit, they are likely to make different decisions (Talangy,2004). Though the professional investors would obtain more sufficient information,their decisions are not all completely rational due to the existence of investment biases. These biases would consequently lead the return decline(Huei lin,2011).Paul Slovic's (1972) study on individual's misperceptions about risk and Amos Tversky and Daniel Kahneman's studies (1974) on heuristic driven decision biases and decision frames (Kahneman and Tversky,1979) have played a seminal role in behavioral finance. The emergence of some phenomena such price bubbles in Stock Exchange, repeated undulation in the price of stock and also maximum and minimum variations have been contrasted to the second main foundation of classic

**Corresponding Author:** Amiri Shahla, Department of Accounting, Kangavar Branch , Islamic Azad University, Kangavar, Iran.

E-mail: [Shahla\\_amiri2010@yahoo.com](mailto:Shahla_amiri2010@yahoo.com). Tel:00988372242542

financial knowledge, i.e. the market efficiency hypothesis. Such irregularities or exception in employment market is incompatible with market efficiency hypothesis. When it is confirmed that a particular group of investors are susceptible the emergence of such behavioral dispositions, market activists can recognize such behaviors prior to making investment decisions; and it is highly likely that they acquire better results in the field of investment.

So, utilizing psychological knowledge and the effect of five factors related to personality and demographic characteristics on behavioral biases and financial theories and models, the present study attempts to explain the occurrences in capital market, and provide an applicable explanation to the investors and market behaviours.

## *1. Methodology:*

### *1.1. Previous Research:*

Prospect theory incorporates many distinct perspectives involving conventional finance and initiates a new development in behavioral finance. Asymmetries of risk perception are inherent in the investors' value function that may causes investors to make investment decisions based on their intuitions and previous investment experiences rather than rational analysis with objective reasons (Kahneman and Tversky, 1979). . Using Morton's notion on the present filed, it is possible to further investigate the significance of the studies on final discussions. According to Morton, the core of financial theory is the study of behavior and conduct of manpower based on the procedure to distribute and arrange resources in terms of time and place in an unsafe environment. Time and the lack of confidence are two key factors which affect financial behavior. In this definition, the behavior plays the most significant role (manpower behavior and financial behavior, Sara Shahriari, 2010).

According to Olsen (1998), behavioral finance does not try to define 'rational' behavior or label decision making as biased or faulty; its purpose is to understand and predict systematic financial market implications of psychological decision processes. In total, in behavioral financial discussions, personality characteristics influencing decision making are investigated. Such characteristics are called behavioral biases which the most significant of them are follows:

**Overconfidence:** one of the most significant and common financial concepts is modern behavior which has a prominent position both in financial and psychological theories. Overconfidence is referred to as individuals' high confidence to their capabilities to predict events or the accuracy of their data. Also, overconfidence makes people overestimate their knowledge and underestimate risk, which in turn, they exaggerate their ability to control occurrence. Overconfidence is very common among people and the most recurrent form of that could be seen when selecting stocks. Some believe that investors' overconfidence is the main cause of the increase in the huge rate of demand in financial markets with documents bubble (Pampian, 2006). They are inclined to rely on their insufficient information and to avoid data available on market simultaneously. Therefore, they achieve a result more insignificant than an optimal level. Financial economists have attempted to explain why overconfidence prevails among investors. Especially when the return rate of an investment target cannot be accurately predicted by experts whom consider themselves competent, investment experts over rely on financial theoretical models and appear more overconfident than novices(Huei lin,2011). Huang and Goo(2008) observed that external factors such as an optimistic investment atmosphere that affects investors' mood and leads to greater optimism, capable of withstanding higher risk and likely leading to overconfidence. Researchs found that the market turnover rate is significantly positive related to the market return of a prior term. This finding implies that overconfident investors attribute high returns in bull markets to their trading skills, leading to a high subsequent trading volume (Statman et al., 2006).Regarding disposition effect, as people have a limited opportunity to process data, they adopts incomplete or innovative decision making methods which it leads also to an efficient decision (Hirshlifer, et al. 2002). Virtually, disposition effect is a part of innovative methods in which individuals categorize their surroundings into distinct mental calculations; in other word, the disposition effect indicates a situation in which of investors have an extreme tendency towards keeping securitie which are in loss (due to not identifying loss) and vice versa, they tend to sell the securities which have profit (due to identifying profit) (Shefrin , Statman, 1985). based on monthly trading volume data from1975 to 1990, indicating that the abnormal turnover rate of the stocks in value is significantly increased but not for the stocks that have lost value; existence of the disposition effect is thus verified (Bremer and Kato, 1996). According to their results in the Taiwan and US stock markets, the selling proportion of winning stocks is 2.5 times higher than that of losing stocks for Taiwanese investors; mean-while, that for US investors is 1.5 times higher. They thus inferred that the disposition effect of Taiwanese individualinvestors is stronger than that of US individual investors (Shu et al., 2005).The herding as a behavior that blindly follows the decisions of the majority rather than relying(Hirshleifer,1966).

Investors' emotional and sometimes irrational behaviors in buying queues and their herding movement is an imitation of individuals that due to their access to hidden information, have recognized the best time to enter and exit the market of a special share sooner than other investors (Islami Bidgoli, et al., 2007). Fashion is a mild

form of behavior based on the majority opinion, which one specific example of it is a fashion that causes risky calculations in Tehran Stock Exchange (Shahr Abadi & Yousefi, 2009). The professional managers, indicating that financial managers may follow the investment choices of other managers because they will not bear all losses once the investment fails. The managers are thus apt to suppress their own beliefs, and the investment decisions are more likely to rely on collective actions (Scharfstein and Stein, 1990). Iihara et al. (2003) found that the herding behaviors induced from foreigner and institutional investors more heavily influence stock prices than that of individual investors in the Japanese Stock Market. Summarizing above-mentioned viewpoints, herding behavior seems independent of personal decision-making process but relevant to market environment and atmosphere. To explain the relationship between investors' personality characteristics and behavioral biases, an increasing attention recently has been attracted in which the differences in investment pattern has been attributed to personality characteristics. One example of such characteristics is extroversion which is related to some factors such as excitability, socialization, availability, optimism, flattery and having positive feelings. Extrovert persons are more self-confident than introvert ones (Haren and Michael, 2003). Another example is neuroticism which is related to individual's capability to tolerate stress. Neurotics are worried, nervous, disappointed, stressful, shy, vulnerable and hasty. Openness to experience is a personality characteristic that indicates individual's curios to others' opinions, idealist and active. Agreeableness is another personality characteristic that shows individuals' disposition to being in agreement with others (Fathi Ashtiani, 2010). Conscientiousness is another personality characteristic that shows an individual with a strong conscience, discipline, atmosphere and personal discipline and reliability is one of its features (Haren and Michael, 2003). There are many aspects and literature on interaction between demographic factors and behavioral finance related with investment decision making. Gender is one of these demographic factors. Psychological research demonstrates that men are more overconfident than women in areas such as finance. Age is another demographic factor that affects investment decision making (Korniotis and Kumar, 2011). Results of the study indicate that older and younger adults make similar decisions using different pieces of information (Davis and Chen, 2008). In terms of mental self-confident and less skeptical than men. And the calibration overconfidence depends on gender, education, income, investment experience, which is considerably higher for men and educated investors (Behandry and Davis, 2006).

### 1.2 Hypotheses:

According to the financial behavioral theory, some evidence shows the significant relationships among personality traits and financial behavioral biases. For example Huei Lin (2011) found that four personal characteristics and three demographic characteristics have a meaningful influence on three behavioral bias in investment. that investors would be lack of confidence when they have anxiety traits (Venter & Michayluk, 2008). The trait of extraversion was negatively associated with overconfidence (Schafer and Williams, 2008). the people without college degree are more apt to herding, but there is no significant evidence in gender (Menkhoff *et al.*, 2006). The investors with the trait of openness mean that buy and sell their shares because of their high confidence (Barber and odean, 1999).

Therefore, taking into account the theoretical fundamentals, the following six hypotheses are considered. The hypotheses 1 -3 are related to the interaction between personality characteristics with behavioral biases, and hypothesis 4 to 6 is related to interaction between demographic factors with existing behavioral torches.

H1: personality traits and overconfidence has an effect on financial behavior.

H2: personality traits and disposition effect has an effect on financial behavior.

H<sub>3</sub>: personality traits and herding has an effect on financial behavior.

H<sub>4</sub>: demographic factors and overconfidence has an effect on financial behavior.

H<sub>5</sub>: Demographic factors and disposition effect has an effect on financial behavior.

H<sub>6</sub>: demographic factors and herding has an effect on financial behavior.

### 1.3. Research Method:

The study uses SEM to simultaneously estimate and test how latent variables and their measurements are related. Based on previous literature, six hypothetical structure equation models are proposed and analyzed with the AMOS 6 Software package, respectively and For evaluating the meaningful relationship between demographic and behavioral biases, variables Kendall's tau correlation efficient is used which is calculated by SPSS softwar.

### 1.4. Hypotheses Testing:

#### 1.4.1. Test the first hypothesis(H1):

Based on output Amose 6, at the significance level  $\alpha = 0.05$ , internal variables such as extroversion, openness to experience and conscientiousness have significance impact on over-confidence, because the p-value is lesser than  $\alpha = 0.05$ .

#### 1.4.2. Test the second hypothesis(H2):

Based on output Amose 6, at the significant level  $\alpha = 0.05$ , internal variables extraversion and neuroticism have significance impact on disposition effects, because the p-value is accepted at the level  $\alpha = 0.05$

#### 1.4.3. Test the Tird hypothesis(H3):

According on output, at the significance level of  $\alpha = 0.05$ , variables neuroticism, openness to experience, agreeableness and conscientiousness have a significant impact on herding behavior, herding behavior,

#### 1.4.4. Test the fourth hypothesis(H4):

Based on output Amose 6, at the significance level  $\alpha = 0.05$ , it is shown that, of the demographic variables, only educational Background has a significant impact on disposition effect, because only its p-value is higher than  $\alpha = 0.05$ .

#### 1.4.5. Test the fifth hypothesis(H5):

Based on output, there is no demographic variables have a significant impact on investment biases variables, because the p-value is higher than  $\alpha = 0.05$ .

#### 1.4.6. Test the Sixth hypothesis(H6):

According on output, at the significance level  $\alpha = 0.05$ , gender and age of the demographic variables have a significant impact on herding behavior, because the p-value is accepted at the level  $\alpha = 0.05$

**Table 1-4:** Internal nature of the endogenous variable.

Variables	Cronbach $\alpha$	SD	Mean
Extraversion Y13·Y12·Y11·	0.431	3.73003	11.54
Neuroticism Y24·Y23·Y22·Y21·	0.467	3.49695	10.75
Openness to Experience Y32·Y31·	0.554	3.75993	14.56
Agreeableness Y42·Y41·	0.589	4.33569	13.93
conscientiousness Y53·Y52·Y51·	0.155	3.02147	13.67
overconfidence Y15·Y14·Y13·Y12·Y11·	0.887	3.90314	12.22
Dispositioneffect Y24·Y23·Y22·Y21·	0.535	3.66030	11.02
Herding Y35·Y34·Y32·Y31·	0.504	3.16961	12.94

#### 1.5 .Sample and Scope of the research:

The statistical population of this research consists of 1000 individual investigators who have trades in Tehran Stock Market. Sampling in this research is simple random. Demographic statistical data in this research includes 172 men and 43 women, in which 36 are younger than 25 years old, 109 are between 26-35 years old, 45 between 36-50 years old, 20 between 51-65 years old and 5 are older than 65 years old. 12 of them have education less than high school education, 79 have BA and 18 have MA. 69 live in Northern area, 39 live in South, 88 live in East and 26 live in West part.

#### 1.6. Source of Data:

The present study is a descriptive survey in respect of its nature and because of its practical aim. Measurement scale of each component in these two sections is based on the scoring from 1 to 20 in which such a scale can determine the correspondent's sensitivity of attitude, and it is more suitable than Likert scale. Demography section includes gender, age, educational background and residential area in Iran, which is designed, closed. For designing the questionnaire, similar questionnaire presented in foreign studies, the experts' confirmation has been used, and through removal and modification of some of the questions, its validity has been approved. For the assessment and evaluation of the answers and statistical results, the value of the questionnaire, which is based on Cronbach's alpha, will be accounted. As this value closes to 1, the questionnaire is more dynamic. The average of Cronbach's alpha for the questions in the questionnaire related to investment prejudices variables based on SPSS outcome is 0.783, and for questions related to personal characteristics variables is 0.733, which is an acceptable amount for the dynamicity of these parts. The average of Cronbach's alpha for all questions in this questionnaire via SPSS software is 0.855, which results in the appropriate dynamism of the questionnaire.

#### 2. The Results of Hypotheses Testing:

This study performs a cross-section analysis via Structural Equation Modeling (SEM) that constructs a comprehensive path to link five types of personality traits and demographic factors with three proposed behavioral biases.

### 2.1. Results of Testing H1:

Based on output Amos 6, at the significance level  $\alpha = 0.05$ , internal variables such as extroversion( $y^1$ ), openness to experience( $y^3$ ) and conscientiousness ( $y^5$ ) have significance and over-confidence( $x^1$ ), because only its p-value is lesser than  $\alpha = 0.05$ . Therefore, an appropriate regression model for expressing the relationship between variables is as follow:

$$X1 = 0.29Y1 + 0.26Y3 + 0.20Y5 + \epsilon$$

In which  $\epsilon$  is the model error. Of the variables related to personality characteristics, the variables namely extroversion, openness to experience and conscientiousness have the maximum effect on extreme confidence.

### 2.2. The Results of Testing H2:

According to exit Amos6, at the significant level  $\alpha = 0.05$ , internal variables such as extraversion ( $y^1$ ), neuroticism ( $y^2$ ) have significance and Dispositioneffect( $x^1$ ), because only its p-value is lesser than  $\alpha = 0.05$ . Therefore, an appropriate regression model for expressing the relationship between variables is as follow:

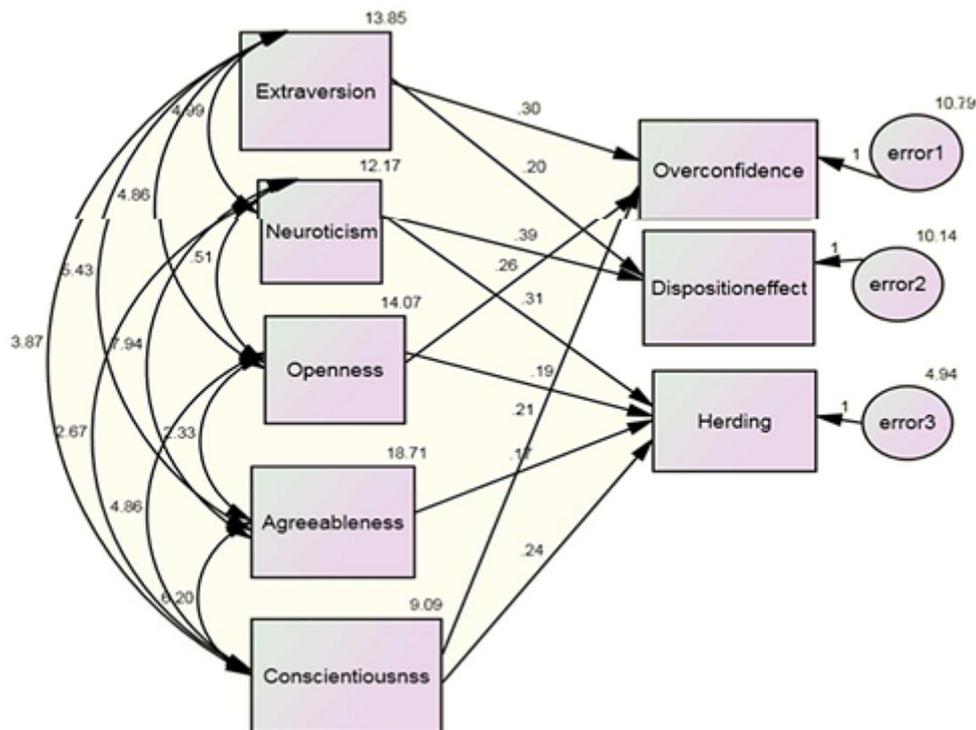
$$X2 = 3.57 + 0.17Y1 + 0.44Y2 + \epsilon$$

### 2.3. The Results of Testing H3:

At the significant level  $\alpha = 0.05$ , neuroticism( $y^2$ ), openness to experience ( $y^3$ ), agreeableness( $y^4$ ),

$$X3 = 0.28Y2 + 0.16Y3 + 0.16Y4 + 0.23Y5 + \epsilon$$

Considering the influence of personal characteristics internal variables on investors biases' internal variables one can conclude that personal characteristics of people are influential on investment's biases and the structural model for this relationship is showed figure 1-5.



**Fig. 1-5:** Structural model of the relationships between personality traits and behavioral biases investment.

### 2.4. The Results of Testing H4:

Based on output Amos 6, significant level  $\alpha = 0.05$ , there is a direct relationship between over-confidence( $x^1$ ) and education level, because only its p-value is lesser than  $\alpha = 0.05$ . Higher the education level, individual's over-confidence will be higher. Therefore, an appropriate regression model for expressing the relationship between variables is as follow:

$$X1 = 12.41 + 0.6(\text{education}) + \epsilon$$

### 2.5. The Results of Testing H5:

Based on the result of AMOS6 software, there is no meaningful relationship between demographic variables and Dispositioneffect (x2) in scale of 0.05. . In this way, an acceptable regression model for these variables is as follow:

$$X2 = 9.36 + \epsilon$$

### 2.6. The Results of Testing H6:

Based on the result of AMOS6 software, the herding behaviour(x3) model has a reverse relationship with age, i.e. more higher the age, lesser herding behavior. Also based on this model, herding behavior among women is higher than men. Therefore, an appropriate regression model for expressing the relationship between variables is as follow:

$$X3 = 17.55 - 2.14(\text{gender}) - 0.49(\text{Age}) + \epsilon$$

The structural equation model for these relationships is showed figure 2-5

Fig.2\_5 The relationship between investors' demographics and investment biases

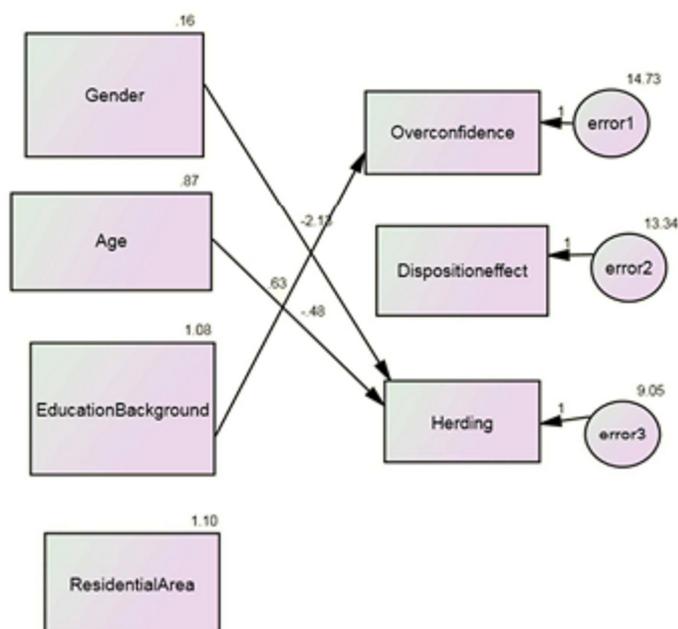


Table (1-5), the estimated coefficients between personality traits and demographic variables and behavioral biases investment (ie marked \* Correlation is significant at  $\alpha = 0.05$ ).

### 2.7 The fitness test model for structural equations:

Based on the indices in Table 2-5,  $K^2$  statistics, equal to 19.476 with degree of freedom 9, which based on p-value=0 indicates the suitability of the model 1 and the suitability of the model is appropriate. Also, regarding the model 2, taking into account the indices in the table and  $K^2$  statistics, equal to 91.024 with degree of freedom 12, which considering p-value=0, the suitability of the model is accepted and model has an insignificant suitability. The fit indices of the structural models include (Bentler-Bont): NFI, (Growth Fit): IFI, (comparative fit): AGFI, GFI and CFI, which whatever they are closer to 1, the fit of the proposed model is higher. In addition, RMSEA index which indicates whatever square error of approximation is less than 0.05, the model is more suitable. And if its value is 0.05 to 0.08, the fitted model is acceptable, and if it is higher than 1, the model is weak. Whenever p-value of the  $K^2$  statistics test which depends on the sample size, is less than 0.05, the suitability of the model is accepted.

Table 2-5: Model parameters.

Index	NFI	IFI	CFI	GFI	AGFI	RMSEA	P-Value
Model 1	0.964	0.980	0.980	0.978	0.913	0.074	0
Model 2	0.225	0.283	0.219	0.889	0.741	0.175	0

### 3. Conclusion:

The purpose of this study is to show that there is an interaction between demographic factor and personality traits with financial behavior factors. It is found that four personality traits and three demographics would an interaction influence in their investment decisions. The first finding, the extraversion characteristics has an interaction with two of the financial behavior factors (overconfidence, Disposition effect). So, the investors with characteristics, should compare the present price of the stock and their own prediction from the natural value time to time, and on its basis make a limitation for decreasing the loss and try to keep it. They should keep a lost stock in a circumstance that shows the potentiality of its recovery and increase in future. They should intentionally evaluate the investment's entire program through following the logical decision making processes; they need to decrease the negative effect of the bias's reluctance and high confident through an increase in information, knowledge and experience in the field of investment. The second finding of our study is that Neuroticism also affects financial behavior factors in investment decisions. The Neuroticism has an interaction with two of the financial behavior factors (Disposition effect, Herding). The investors with stronger neuroticism personality should set up a stop-loss point and a lock-gain point so as to avoid the loss resulted from the biases of disposition effect and herding. Third, There is a positive relationship between open to experience with overconfidence, Herding. The investors with open to experience personality should analyze market's information carefully and advise with the experts. They should find a real understanding of their own abilities in the stocking market. They should try to limit their false confidence by doing more trades for a decrease in the cost of the trades and an increase in their own outcome. Fourth, the Agreeableness characteristics has an interaction with herding. So, the investors with characteristics, should never accept an idea without any reason. Women and young individuals are recommended to follow experts' experiences and accept the market's information and use them in their investments. Finally, and whenever many other individuals recommend them to trade a specific stock, they should consult with experts. In addition, we recommend educated individuals evaluate the investment's programs consciously and consult with others about their own ideas. Based on these findings, the Residential area of demographic factors would not be effective that interact with behavioral finance factors in investment decisions.

### REFERENCES

- Barber, B.M., T. Odean, 1999. "The courage of misguided convictions," *Financial Analysts Journal*, 55(6): 41-55.
- Barber, B.M. and T. Odean, 2001. "Boys will be boys: gender, overconfidence, and common stock investment," *Q. Econ. J.*, 116(1): 261-292.
- Barber, B.M., T. Odean, 2003. Online investors: Do the slow die first. *Rev. Financ. Stud.*, 15(2): 455-487.
- Benartzi, S., R.H. Thaler, 1995. Myopic loss aversion and the equity premium puzzle. *Q. J. Econ.*, 110(1): 73-92.
- Bernardo, A. and I. Welch, 2001. On the Evolution of over confidence and *Entrepreneurs journal of Economic and management Strategy*, 10: 301-330.
- Bhandari, G. and R. Deaves, 2006. "The demographics of overconfidence," 7(1): 5-11.
- Bikhchandani, S., D. Hirshleifer and I. Welch, 1992. A Theory of Fads, fashion, custom, and cultural change as Informational cascades, *journal of political Economy*, 10: 92-102.
- Costa, P.T. Jr. and R.R. McCrae, 1992. Revised NEO Personality Inventory and NEO Five-Factor Inventory: Professional Manual. FL: Assessment Resource.
- Costa, P.T. Jr. and R.R. McCrae, 2008. Revised NEO Personality Inventory and NEO Five-Factor Inventory: Professional Manual. FL: Assessment Resources.
- Dass, N., M. Massa and R. Patgiri, 2008. "Mutual funds and bubbles: The surprising role of contractual incentives," *Rev. Financ. Stud.*, 21(1): 51-99.
- Devenow, A. and I. Welch, 1996. Rational Herding in Financial markets, *European economic Review*, 4: 603-616.
- Eagly, A.H. and L.L. Carli, 1981. "Sex of researchers and sex-typed communications as determinants of sex differences in influence ability: a Meta-Analysis of Social Influence Studies," *Psychol. Bull.*, 90(1): 1-20.
- Fama, E.F., 1970. "Efficient capital markets: a review of theory and empirical work," *J. Finance*, 33(4): 75-83.

- Garvey, R., A. Murphy, F. Wu, 2007. "Do losses linger," *The Journal of Portfolio Management*, 33(4): 75-83.
- Haren, E., C.W. Mitchell, 2003. Relationship between the five-factor personality Model and coping styles, *psychology & Education: An Interdisciplinary*.
- Hayduk, 1987. *Structural Equation Modeling with LISREL: Essentials and Advances*, Baltimore, MD: John Hopkins University Press.
- market", *Africa Journal of Business management*, 5(5): 1630-1341.
- Huei-wenlin, 2011. "Elucidating rational biases: Evidence from the Taiwanese stock market", *Africa Journal of Business management*, 5(5): 1630-1341.
- Kahneman, D. and A. Tversky, 1979. "Prospect theory: An Analysis of Decision making under Risk" *Econometrica*, 47(2): 263-291.
- Lazear, E.P. and S. Rosen, 1988. Rank-order Tournaments as optimum labor contracts *Journal of Political Economy*, 89(5): 841-864.
- Maital, R. Filer and J. Simon, 1986. "What do people bring to the stock market (beside money)?" *The Economic Psychology of Stock Market Behavior*, In B. Gilad and S. Kaish (Eds.), *Handbook of Behavioral Economics Behavioral Macroeconomics*, B, Greenwich, Connecticut, JAI Press Inc., pp: 273-307.
- Menkoff, L., U. Schmidt, T. Brozynski, 2006. The impact of experience on risk taking, overconfidence, and herding of fund Complementary survey evidence. *Eur. Econ. Rev.*, 50: 1753-1766.
- Mintzberg, H., O. Raisinghani, A. Theoret, 1976. The structure of unstructured decision processes. *Adm. Sci. Q.*, 21: 246-275.
- Myers, B. and M.H. McCaulley, 1985. *Manual: A guide to the Development and Use of the Myer Briggs Type Indicator*. Palo Alto, CA : Consulting Psychologist Press, Inc.
- Olsen, R., 1998. "Behavioral Finance and Its Implications for Stock price Volatility" *Financial Analysts Journal*, 54(2): 10-18.
- Scharfstein, D.S., J.C. Stein, 1990. Herd behavior and investment. *Am. Econ. Rev.*, 80(3): 465-479.
- Schaefer, P.S., C.C. Williams, A.S. Goodie and W.K. Campbell, 2004. Overconfidence and the Big Five," *J. Res. Pers.*, 38: 473-480.
- Sehgal, S. and N. Tripathi, 2009. Investment strategies of FIIs in the Indian equity market, *The Journal of Business Perspective*, 13(1): 11-18.
- Shefrin, H. and M. Statman, 1985. The disposition to sell winners too early and ride losers too long: theory and evidence, *J. Finance*, 40: 777-790.
- Shu, P.G., Y.H. Yeh, S.B. Chiu, H.C. Chen, 2005. Are Taiwanese individual investors reluctant to realize their losses? *Pac. Basin Financ. J.*, 13(2): 201-223.
- Suleyman Gokhan Gunay and Engin Demirel, 2011. *International Research Journal of Finance and Economics*, ISSN 1450-2887 Issue 66.
- Van de Venter, G. and D. Michayluk, 2008. An insight into overconfidence in the forecasting abilities of financial advisors," *Aust. J. Manag.*, 32(3): 545-557.