Eurasian Journal of Social Sciences, 7(1), 2019, 24-33
DOI: 10.15604/ejss.2019.07.01.003

EURASIAN JOURNAL OF SOCIAL SCIENCES

www.eurasianpublications.com

THE MEASUREMENT OF BEHAVIORAL FACTORS ON CHOICE OF FUND IN UNIT TRUST FUND INVESTMENT: AN EXPLORATORY FACTOR ANALYSIS

Tan Boon Pin
Universiti Malaysia Kelantan, Malaysia
Email: tan.boonpin@gmail.com

Noraani Mustapha
Universiti Malaysia Kelantan, Malaysia
Email: noraani@umk.edu.my

Nik Maheran Nik Muhammad
Universiti Malaysia Kelantan, Malaysia
Email: maheran@umk.edu.my

Abstract

The objective of this study is to develop items for the choice of the fund in unit trust fund investment in Malaysia by looking at the behavioural factors influencing the retail investors. The validity and reliability test have been applied to all the constructs. The respondents were from Kelantan, Terengganu, Penang and Kuala Lumpur. The data were analyzed using SPSS. Exploratory factor analysis was used to group the items in the process of measuring the following dimensions: (i) Snake Bite Effect; (ii) Past Success; (iii) Advice and information; (iv) Illusion of Knowledge and (vi) Judgment of fund. The results of the analysis highlighted the development of three primary underlying variables, namely considering the past, financial knowledge and miscalibration. These instruments can be used by unit trust companies, the authorities of unit trust and other banking's product to understand the behaviour of their clients and later, can implement it to the expected new customers, and it will provide a glimpse on how behavioural factors influence the choice of fund.

Keywords: Unit Trust Fund, Exploratory Factor Analysis

1. Introduction

The unit trust fund is structured shared investments with investors that have the same objectives to contribute to the funds to invest in a portfolio of securities or assets (Gan, 2008). The fund is managed by professional fund managers and invests in a portfolio of a fund that may include cash, bonds and deposit, shares, properties and commodities. In Malaysia, the right to the fund is according to the units own as the fund is broken down into units (Gan, 2008).

Federation of Investment Managers Malaysia (2014) indicates that Malaysia has 42 unit trust management companies, 56,202 unit trust consultants together with 441 conventional funds and 190 Syariah funds to choose from as of December 2015. The net asset value for the conventional fund is RM 294,454 billion and Islamic based fund is RM 52,124 billion which is

20.45% of the net asset value of Bursa Saham Malaysia as of 31 December 2015 (Federation of Investment Managers Malaysia, 2016). The projection penetration rate for unit trust fund according to Securities Commission Malaysia (2014) is likely to be a double-digit growth from 18% in 2010 to 34% in 2020, which is almost the same rate observed in the developed countries. In investing unit trust fund, investors need to choose as there are choices.

According to the classical finance, the underlying assumption of individual behaviour which is an economic agent is to possess absolute criteria. Known as homo economicus, he should be able to maximize all the possible options, completely understand all the outcomes, and will only consider taking actions based on these results. Echoing the same idea, Simon (1997) mentions that homo economicus must have a super brain, and can process raw data, solve complex problems and have an exceptional mathematical mind. His brain is never full and is immune to cognitive and emotional error (Statman, 2017).

Ackert and Deaves (2010) concurred that the behaviour of homo economicus is attributed to Mill (1874), who views the human as a person who wants to accumulate wealth and minimize cost and expenditure. Referring to Statman (1999), human in classical finance are rational, but in Behavioral Finance, humans are normal. Statman (2017) recognized that people are not irrational but mostly intelligent and “normal smart”. Normal people do not intend to be ignorant or to commit a cognitive and emotional error. Instead, they act to get utilitarian, expressive and emotional benefits they want (Statman, 2017). Utilitarian benefits answer to the question “what does something do for me and my pocketbook?” While expressive benefits convey to us and others our values, taste and social status (Statman, 2017). Emotional benefits answer the question “how does something make me feel?” Sometimes, normal people are “normal foolish”, misled by cognitive and emotional error. So, Behavioral Finance explains financial market anomalies by studying the actual behaviour of investors.

Considering the past, financial knowledge and miscalibration were used to look at how investors choose their fund. These three behavioural factors will be used as it incorporates the usual way of decision making concerning about choice (Thaler and Johnson, 1990).

2. Considering the Past

Using past outcomes as a factor in evaluating the current uncertainty commonly used by many investors is known for considering the past (Nofsinger, 2005). The discovery by Thaler and Johnson (1990) was that snake bite effect, and past success was the behavioural factors to consider if an investor considers the past in making a financial decision.

- *Snake Bite Effect (Past Investment Losses):* According to Nofsinger (2005), following a financial loss, investors become averse to risk. It is known as the snake bite effect. After losing money and are faced with a gamble, investors will choose to decline to take the risk. Snakes seldom bite people, but when they bite the victims become more mindful. After feeling hurt and as long as the feeling of unluckiness is there, they will avoid risky adventure; therefore, they herd (Nofsinger, 2005).
- *Past Success:* As claimed by Nofsinger (2005), past successes are where people have experienced a gain or profit from an investment. Investors will always try to minimize the impact of their poor return by always highlighting their excellent return and by taking this step, will end up overrating both their past return and their potential future performance of their account (Wright, 2000). Overestimating their investment return is a common occurrence.

In evaluating risky decision today, investors are using the past outcome as a yardstick. After a profitable investment, the profit they earn is never fully considered their own money (Nofsinger, 2005). In an experiment, Nofsinger (2005) found that 77% of the economic student would continue betting after winning $15.00. After losing $15.00, only 41% chose to gamble.

2.1. Financial Knowledge

Statman (2017) grouped knowledge into three types in the context of finance. Type one is about financial facts knowledge. This knowledge is about financial markets, bonds, stocks and other investment instruments. It is also about diversification, the drawbacks of investment fees and the difficulty of beating the market (Statman, 2017). Human behaviour knowledge is about our wants, ways the investors make a decision such as cognitive, emotional shortcut and the errors investors make. It about wants such as social status, adherence to value and for riches. According to Statman, (2017), there are errors in framing, hindsight and emotional shortcuts and errors such as hope, pride, regret and fear.

The third is information knowledge and divided into three types according to Statman (2017). Exclusively available information is private or inside information. It is only available to among the administrator of the company such as directors and managing director of the companies. Narrowly available information is only available to a few managers and executive of the company. It is about information before it is announced to the public. Widely available information is available to everyone, but it does imply that everyone knows that information (Statman, 2017).

- *Advice and Information:* Investors invest based on information or advice they received and observed in Prospect Theory where the reaction of an investor depends on a subjective reference point. Forbes (2009) stated that one of the reasons why investors tend to agree is because of the nature of the advice they received from stockbrokers and market commentators. From 1989-1994, Welch (2000) reviewed 50,000 recommendations issued by 226 brokerage house by using US Zacks database. There was substantial evidence that investors followed recommendations towards the current consensus regardless of the underlying distribution of advice given. It is a well-known phenomenon known as “white coat effect” according to Desteno (2015) where ones believe that the person who gives advice is an expert or person with authority.
- *Illusion of Knowledge:* Varying levels of actual knowledge versus perceived knowledge, combined with an unrealistic expectation, according to Suzanne (2012) is creating sizable barriers to healthy decision making. Nofsinger (2005) claimed that the illusion of knowledge referred to the inclination for people to believe that the precision of their forecasts increases with more information; with more information increases one’s knowledge thus improves one’s decision. Partially, overconfidence is the result of the illusion of knowledge (Nofsinger, 2005).

Based on Nofsinger (2005), investors who have access to the internet can access information at a faster speed. They have raw data but most retail investor’s lack of training, knowledge and experience on how to interpret and analyze it. It needs specialized skills, and it may be very costly to process raw data and yet to be able to use this information will lead to a price change which is either profitable or loss (Nofsinger, 2005). It is beyond the reach of many non-professionals as discovered by Nofsinger (2005)

2.2. Miscalibration

Miscalibration is a strain of overconfidence. Ackert and Deaves (2010) define miscalibration as the tendency for an investor to overestimate the precision of their knowledge. Shiller (1997) said that overconfidence is associated with investors’ judgment, underestimating the margin of error likely to be committed.

Graham *et al.* (2009) argued that people are more willing to bet on their judgments when they feel skilful or knowledgeable. Hilton *et al.* (2011) showed that the core finding that supports the reality of judgmental overconfidence is that people are miscalibrated. They overestimate the probability of their judgment to be correct. Miscalibration depends on the way it is measured. In particular, higher confidence is observed in the interval production task where

participants were asked to state an interval such that they were XX% (e.g., 50%) sure that the correct response to the questions fell in that interval.

3. Methodology

The respondents were sampled in the state of Kelantan, Terengganu, Penang and Kelantan. They are all Malaysian retail investors of a unit trust fund with at least a year of investment experience. 600 questionnaires were distributed, and only 333 were deemed suitable. The questionnaire was developed through adaptation of the previous study. It is as shown in Table 1.

All the items were structured based on five items of Likert Scale ranging from 1 'strongly disagree' to 5 'strongly agree', except for Understand the Investor. After that, it was checked by the expert and discussed with selected respondents for its face validity test. The questions were developed and distributed to the respondents, and the data will be analyzed using exploratory factor analysis.

Table 1. Sources for questionnaire

Section	Items	Sources
Understanding the investor	7	Adapted from Wang (2011); Awan and Arshad (2012)
Choice of fund	8	Adapted from Nurasyikin (2012); Awan and Arshad (2012); Capon *et al.* (1996); Teoh (2012)
Considering the Past		
Snake Bite	8	
Pass Success	7	Adapted from Bala *et al.* (2003); Capon *et al.* (1996); Luong (2011); Awan and Arshad (2012); Low (2008);
Financial Knowledge		
Advice and Information	10	
Illusion of Knowledge	6	Adapted from Capoen *et al.* (1996); Nurasykin (2012)
Miscalibration		Adapted from Capon *et al.* (1996); Bala *et al.*
Judgment	6	(2003); Nurasykin (2012); Wang (2011); Awan and Arshad (2012)

4. Data Analysis

Data analysis was carried out through SPSS. It helps to facilitate data cleansing, screening and checking logical inconsistencies. In order to achieve the objective of this study, Factor analysis is used as it is capable of decreasing a large number of underlying items into a smaller or convenient set of factors and it is used to study construct validity. Thus, factor analysis is used to identify the items, which measure the essential underlying variables. According to Sekaran (2000), it needs a sample size of at least 300 respondents to provide a stable factor solution.

There are some steps involved in factor analysis. The first step is to determine factorability of the data by using Measure of Sampling Adequacy (MSA) with a value of more than 0.6, Kaiser-Meyer-Olkin (KMO) with a value of more than 0.5 and Bartlett's test of sphericity (BTS) which is significant (Pallant, 2005).

The number of factors to be used will depend on the extraction factor, and the scree plot will help to determine the eigenvalue by looking at the natural bend in the data as the curve flattens out (Costello and Osborne, 2005). To ensure significant factors to be selected, the only eigenvalue over one is selected (Pallant, 2005).

Costello and Osborne (2005) acknowledged that the goal of rotation is to simplify and clarify the data structure. It cannot improve the fundamental aspects of the analysis, such as the amount of variance extracted from the items. Rotation according to Vogt (1993), is methods in factor analysis by which the researcher attempts to relate the calculated factors to theoretical

entities. It is done differently depending on whether the factors are believed to be correlated (oblique) or uncorrelated (orthogonal). The more helpful is Yaremko *et al.* (1986, pp. 86), who define factor rotation as follows: "In factor or principal-components analysis, rotation of factor axes identified as the initial extraction of factors, to obtain simple and interpretable factors."

Tabachnick and Fiddell (2007) argue that perhaps the best way to decide between orthogonal and oblique rotation is to request rotation (e.g. direct oblimin or promax from SPSS) with the desired number of factors (Brown, 2009) and look at the correlation among factor. If the data do not drive factor correlations, the solution remains nearly orthogonal. If correlation exceeds 0.32, then is 10% (or more) overlap in variance among factors, enough variance to warrant oblique rotation unless there are compelling reasons for orthogonal rotation. Varimax rotation is by far the most common choice according to Costello and Osborne (2005). There is no widely preferred method of rotation; all tend to produce a similar result (Fabrigar *et al.* 1999).

The final step is the definition of the factors. An item with loading higher than 0.6 is chosen to represent a factor (Tabachnick and Fiddell, 2001). The following steps above will be followed.

5. Findings and Discussions

5.1. Snake Bite Effect (Past Failure Experience)

Eight items were used to measure the respondents' behaviour on snake bite effect on the choices of funds. To test whether factor analysis was appropriate, Kaiser-Meyer-Olkin measure of sampling adequacy (KMO), Measures Sampling of Adequacy (MSA) and Bartlett's Test of Sphericity (BTS) was used. The KMO was 0.657 exceeding the required value of 0.5. The BTS indicated a statistically significant correlation between items ($p < 0.001$) and MSA was more than 0.6, allowing the factor analysis to proceed.

The items were chosen to identify each factor were those with loading higher than 0.6 (Tabachnick and Fiddell, 2001). As a result, four items were omitted (Unit trust consultant and Co-investors and internet review and market sentiment). Factor analysis is then tested based on four items. The scree plot suggested a single-factor-solution with the first factor accounted for 49.523% of the variance. Table 2 captures the items to be used in the questionnaire with the statement of: "*in deciding the choice of fund, my investment losses experience enlightened me to…"*

Table 2. Summary of factor loading for snake bite effect

Items	Factor
	1
Keep it	0.791
Switch fund	0.844
Sell it	0.730
Talk to friends and relatives	0.331

Note: Snake bite effect has eigenvalue of 1.981, percentage of variance explained of 49.52% and KMO of 0.657. The Bartlett's Test of Sphericity Approx. Chi-Square 220.42, df =6 with Sig. = 0. The Cronbach Alpha is 0.695.

5.2. Past Success

Seven items were used to measure past success. The MSA was more than 0.6, KMO was 0.838 with BTS chi-square of 699.139 ($p<0.000$), justifying a factor analysis. Two items were dropped (lowest cost fund, meet my religious need) due to factor loading (less than 0.6). All five items had strong loadings (exceeding 0.6) on only one underlying factor after rerunning the factor analysis. This factor explained that 47.45% of the variance in response. The scree plot also suggested a single factor solution. Table 3 captures the items to be used in the questionnaire by using the statement of: *"in deciding the choice of fund, my past success experience will…"*

Table 3. Summary of factor loading for past success

Items	Factor
	1
Winning fund	0.680
Fund outdo benchmark	0.617
Good Reputation Company	0.800
Excellent Fund Manager	0.685
Highest Ranking Fund	0.677

Note: The Eigenvalue is 3.321, percentage of variance explained is 47.44% and the KMO = 0.838. The Bartlett's Test of Sphericity Approx. Chi-Square = 699.139, df = 21, Sig = 0. The Cronbach Alpha = 0.809

This shows that the snake bite effect and past success can be further analyzed and the items are appropriate in line with the objective of the study.

5.3. Advice and Information

Ten items were used to measure advice and information. Three items (friend, co-investors and internet review) were dropped because the factor loading was below 0.6. Factor analysis was rerun, and the MSA was more than 0.6, the KMO value was 0.803 with BTS of 712.164, df = 21 and ($p<0.001$). This information indicates that the variables are suitable for factor analysis. All seven items loaded into a single factor with an eigenvalue of more than 1. The single factor extracted 46.97% of the total variance in response. Table 4 captures the items to be used in the questionnaire by using this statement of: "*in deciding the choice of fund, the advice and information come from:"*

Table 4. Summary of factor loading for advice and information

Items	Factor
	1
Unit Trust Consultant	0.719
Seminar	0.717
Published Info	0.629
Prospectus	0.616
Well known Consultant	0.811
Market Sentiment	0.640
Co-investor Success	0.644

Note: The Eigenvalue is 3.288, with the percentage of variance explained 46.97% and KMO = 0.803. The Bartlett's Test pf Sphericity Approx Chi-Square – 712.164, df = 21, Sig = 0. The Cronbach Alpha is 0.836.

5.4. Illusion of Knowledge

For the illusion of knowledge, six items were prepared. The MSA was more than 0.6, KMO was 0.849 with a significance value for BTS ($p<0.000$) indicating that the data were suitable for factor analysis. An item (low-cost fund) was dropped due to the loading of less than 0.6. Factor analysis was run on the five items. One factor was extracted, and this factor accounted for 56.359% of the variance. The scree plot provides further support for the single factor solution, and it is appropriate. Table 5 captures the items to be used in the questionnaire by using this statement of: i*n deciding the choice of fund, the extra information will…"*

Table 5. Summary of factor loading for the illusion of knowledge

Items	Factor
	1
Winning fund	0.803
To my needs	0.706
Sure Profit Fund	0.772
Excellent Ranking Fund	0.740
Reputable Company	0.648

Note: The Eigenvalue is 3.382 with percentage of variance explained 56.35% and KMO = 0.849. The Bartlett's Test of Spehericity Approx Chi-Square is 766.353, df = 15, Sig. = 0.00. The Cronbach alpha = 0.840.

Financial knowledge that consists of advice and information and the illusion of knowledge can be further analyzed. Next, miscalibration will be factorized, and there is only one dimension.

5.5. Judgement of fund

Five items were used to measure the judgment of fund. The MSA was more than 0.6, KMO was 0.765 with a BTS chi-square of 448.842 ($p<0.000$) allowing a factor analysis. An item (low-cost fund) was dropped as it did not fulfil the factor loading of more than 0.6 and factor analysis was rerun on the five items. The extracted factors were with an eigenvalue of more than 1. Table 6 captures the items to be used in the questionnaire by using the statement of: "i*n deciding the choice of fund, my judgment of fund will…"*

Table 6. Summary of factor loading for judgment of the fund

Items	Factors
	1
High return Fund	0.719
Fund based on Ranking	0.705
Reputation Company	0.803
Performance of Fund Manager	0.764

Note: The Eigenvalue is 2.550, the percentage of variance explained is 51.00% and the KMO is 0.764. The Barlett's Test of Sphericity Approx. Chi-Square is 392.207, df =10, Sig = 0.00. The Cronbach Alpha is 0.735.

Miscalibration which has only one item judgment of fund can be further analyzed. Choice of the fund will be factorized next.

5.6. Choice of Fund

Eight items were used to measure the choice of fund. The MSA was more than 0.5, KMO was 0.559 with a BTS chi-square of 262.184 ($p<0.000$) allowing a factor analysis. Two items (diversification of investment, choice from UTC) were dropped as it did not fulfil the factor loading of more than 0.6. Three factors were extracted with an eigenvalue of more than 1. Table 7 captures the items to be used in the questionnaire by using this statement: "m*y choice of the fund is:"*

Table 7. Summary of factor loading for the choice of fund

	Factor		
	1	2	3
Profit every year			0.824
Long-term investment			0.831
Advice from intermediary		0.845	
Extra reading		0.804	
Popular fund	0.859		
Reputable Company	0.884		

Note: The Eignvalue is 1.068, the percentage of variance explained is 72.350% and the KMO is 0.559. The Barlett's Test of Spericity Approx, Chi-Square is 262.184, df = 15, Sig = 0.00. The Cronbach Alpha is 0.631.

6. Conclusion

The items on the choice of the unit trust fund were validated by exploratory factor analysis and had achieved the requirement of the validity and reliability test. The items demonstrate how investors choose their fund which gives an impact on their decision making.

During decision making for choice of fund, investors will consider the above items as they are likely to be influenced by their own behavior. Their behavior will decide which fund to invest, reinvest and to sell. All these items attributed to the behavior of investors who are accumulating their wealth. These items can be used by unit trust management companies, The Federation of Investment Managers, Bank Negara, Securities Commission of Malaysia to understand the behaviour of investors in their choice of fund. By understanding the behaviour of the investor, it is much easier for the companies to market their products and help the government agencies to come out with the better legislature to protect the investors.

References

Ackert, L. F., and Deaves, R., 2010. *Behavioral finance: Psychology, decision making and markets*: Boston, M.A: Cengage Learning.

Awan, H. M., and Arshad, S., 2012. Factors valued by investors while investing in mutual fund: A behavioral context. *Interdisciplinary Journal of Contemporary Research in Business,* 4(1), pp. 503-515.

Bala Ramasamy, Mathew C.H. Yeung. (2003). Evaluating mutual funds in an emerging market: Factors that matter to financial advisor. *International Journal of Bank Marketing,* 21(3), pp. 122-136. https://doi.org/10.1108/02652320310469502

Brown, J. D., 2009. Statistics corner. Questions and answers about language testing statistics: Choosing the right number of components or factors in PCA and EFA. *Shiken: JALT Testing & Evaluation SIG Newsletter*, 13(2), pp. 19-23.

Capon, N., Fitzsimons, G. J., and Prince, R. A., 1996. An individual level analysis of the mutual fund Investment decision. *Journal of Financial Service Research,* 10(1), pp. 59-82. https://doi.org/10.1007/BF00120146

Costello, A. B. and Osborne, J. W., 2005. Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation,* 10(7), pp.173-178.

Desteno, D., 2015. *The truth about trust*. New York: Penguin Random House LLC.

Fabrigar, L., Wegener, D. T., MacCallum, R. C., and Strahan, E. J., 1999. Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*(3), pp. 272-299. https://doi.org/10.1037/1082-989X.4.3.272

Federation of Investment Managers Malaysia, 2014. *Year statistics*. Available at: <www.fimm.com.my/industry-statistic/year-statistic> [Accessed on 7 March 2017].

Federation of Investment Managers Malaysia, 2016. *Industry statistics.* Available at: <www.fimm.com.my/industry-statistic/> [Accessed on 3 February 2017].

Forbes, W., 2009. *Behavioral finance*. New Jersey: John Wiley & Sons Ltd.

Gan, J., ed., 2008. *Know your unit trust investment*. Kuala Lumpur: Leeds Publications.

Graham, J. R., Harvey C. R. and Huang, H., 2009. Investor competence, trading competence, trading frequency and home bias. *Management Science,* 55(7), pp. 1094-1106. https://doi.org/10.1287/mnsc.1090.1009

Hilton, D., Regner, I., Cabantous, L., Charalambides, L., and Vautier, S., 2011. Do positive illusions predict overconfidence in judgment? A test using interval production and probability evaluation measures of miscalibration. *Journal of Behavioral Decision Making, 24*(2), pp. 117-139. https://doi.org/10.1002/bdm.678

Low, S.-W., 2008. A cross-sectional analysis of Malaysian unit trust fund expense ratios. *Journal of Asset Management,* 9(4), pp. 270-277. https://doi.org/10.1057/jam.2008.25

Luong, L. P., 2011. *Behavioral factors influencing individual investors decision making and performance.* PhD. UMEA Universitet.

Mill, J. S., 1874. *Essays on some unsettled questions of political economy*. New York: Augustus M. Kelly Publisher.

Nofsinger, J. R., 2005. *The psychology of investing*. London: Pearson and Prentice Hall.

Nurasyikin J., Smith, M., and Gerrans, P., 2012. Mutual fund selection criteria: Evidence from Malaysia. *Asian Review of Accounting,* 20(2), pp. 140-151. https://doi.org/10.1108/13217341211242187

Pallant, J., 2005. *SPSS survival manual.* 2nd ed. New York: Open University Press.

Securities Commission Malaysia, 2014. *Annual report 2014.* [online]. Available at: <https://www.sc.com.my/api/documentms/download.ashx?id=f51cc902-7331-45e8-ab36-d638f2721a54> [Accessed on 10/10/2016].

Sekaran, U., 2000. *Research methods for business: A skill business approach.* Carbondale: John Wiley & Sons, Inc.

Shiller, R. J., 1997. Human behavior and the efficiency of the financial system. In: J., Taylor and M., Woods, eds., 1997. *Handbook of macroeconomics*. Amsterdam: Elsevier. pp. 1305-1340.

Simon, H. A., 1997. *Models of bounded rationality*. *Vol. 3: Emprically grounded economic reason*. Cambridge, MA: The MIT Press.

Statman, M., 1999. Behavioral finance: Past battles and future engagements. *Journal Financial Analysis*, 55(6), pp. 18-27. https://doi.org/10.2469/faj.v55.n6.2311

Statman, M., 2017. *Finance for normal people: How investors and markets behave*. New York: Oxford University Press.

Suzanne, L., 2012. *The Influential investor.* New York: Centre of Applied Research State Street.

Tabachnick, B. G. and Fidell, L. S., 2001. *Using multivariate statistic.* 4th ed. New York: Harper Collins.

Tabachnick, B. G., and Fidell, L. S., 2007. *Using multivariate statistics.* 5th ed. Upper Saddle River: NJ: Pearson Allyn & Bacon

Teoh, T. T., 2012. The impact of unit trust management company fund investment on investors' risk. *Asian Journal of Business and Accounting, 5*(1), pp. 27-54.

Thaler, R., H., and Johnson, E. J., 1990. Gambling with house money and trying to break even: The effects of prior outcomes and risky choice. *Management Science,* 36(6), pp. 643-660. https://doi.org/10.1287/mnsc.36.6.643

Vogt, W. P., 1993. *Dictionary of statistics and methodology: A nontechnical guide for the social sciences*. Newbury Park: CA: Sage.

Wang, A., 2011. Younger generations' investing behaviors in mutual fund: Does gender matter? *The Journal of Wealth Management*, 13(4), pp. 13-23. https://doi.org/10.3905/jwm.2011.13.4.013

Welch, I., 2000. Herding amongst security analyst. *Journal of Financial Analysis,* 58(3), pp. 369-396.

Wright, R. A., 2000. *Behavioral finance: Is it impacting the way you look at investing?* [online]. Available at: <

http://www.advantageinvesting.com/Articles/Behavioral%20Finance%20articles.pdf> [Accessed on 10 January 2019].

Yaremko, R. M., Harari, H., Harrison, R. C., and Lynn, E., 1986. *Handbook of research and quantitative methods in psychology: For students and professionals.* Hillsdale: NJ: Lawrence Erlbaum Associates.