



The effect of financial attitude, financial behavior and subjective norm on stock investment intention

Chanin Yoopetch, Pornthip Chaithanapat*

Management, College of Management Mahidol University, Phayathai, Bangkok 10400, Thailand

Article Info

Article history:

Received 3 July 2019

Revised 19 May 2020

Accepted 7 September 2020

Available online 31 July 2021

Keywords:

financial attitude,
financial behavior,
stock investment intention,
subjective norm,
Thailand

Abstract

The focus of this study was on the behavioral aspect of investment. To understand the investment intention of stockholders, the objectives of this study aimed to investigate the relationship of several factors and their influence on the investors' intention to invest in the stock market. The approach of this research was to apply the theory of reasoned action to explore the relationship among determinants of stock investment intention. The study aimed to explore the factors influencing stock investment intention, which is important to understand the intention of the stock investors regarding the determinants. The major determinants included financial attitude, financial behavior, and subjective norm indicating positive effects on stock investment intention. Managerial implications and directions for future research were provided. The contribution of this study is the scale of stock investment intention the authors developed.

© 2021 Kasetsart University.

Introduction

The stock market has an important role in the economic development of both developed and emerging countries. According to El Wassal (2013), the number of stock investors is highly essential for the development of the stock market because the larger investor base can lead to more stock market liquidity and more investment transactions. In addition, both individual and institutional investors have a significant impact on the stock market development. Stock investment is known as one of the financial activities important for both macroeconomic and

microeconomic levels. The stock market can help firms raise capital to support their operations and business expansions. In addition, stock market performance depends on several factors toward stock trading activities, including the number of transactions, the average return on transactions and a number of buying and selling transaction (Kuo, Chen, & Hwang, 2001).

Despite the past studies mentioned above, a gap in research led to the current study; that is to investigate the stock investment intention and the effects of financial attitude, social norm, and financial behavior. Past research has explored those factors, but only limited study. (Ramayah, Rouibah, Gopi, & Rangel, 2009) clearly explained the relationship among financial attitudes and behaviors and their impacts on investment intentions of the stock investor. Based on current literature (e.g. Barber & Odean, 2000; Ramayah et al., 2009), the gap in behavioral intentions in stock investment is obvious and research is

* Corresponding author.

E-mail address: p.chaithanapat@gmail.com (P. Chaithanapat).

very limited in stock investment intention, especially in the context of developing countries; therefore, this research aimed to contribute to the field of behavioral finance. The purpose of this paper was to attempt to explore how financial attitude, financial behavior, and subjective norm affect the stock investment intention.

Literature Review

Theory of Reasoned Action

One of the commonly used theories in behavioral study in the modern era is the theory of reasoned action. The theory was introduced by two main social science studies of Fishbein and Ajzen (1975) and Ajzen and Fishbein (1980). The concept of this theory can be applied to explain why individuals (e.g. customers or investors) buy products or use services and why customers adopt new technology or take on new initiatives. In addition, the theory can help improve the understanding of how to predict the behaviors of individuals to act or not act when they are affected by stimulants, including attitudes, and subjective norm. The implication of the theory has covered various fields of empirical research from technology adoption (Davis, 1989) to marketing research (Palm, Seubert, & Glaser, 2019; Sheppard, Harwick, & Warshaw, 1988)

The theory aimed to explain the relationship of attitude and other stimulants (e.g. subjective norm) on behavioral intention or intention to take action, leading to actually taking action. The current study applied the theory of reasoned action as a foundation to explain the role of social psychology on human intention and behaviors. Therefore, the relationships among the variables in the current study were developed based on this existing theory. However, a large number of empirical researches applied the theory in the context of consumer behavior, buying decision, and other marketing related areas. Little research has been conducted using the theory of reasoned action in the field of investment study. The stock investment intentions are hypothesized to be influenced by the financial attitude, subjective norm, and financial behavior. One of the expected contributions of this study was to enhance the scope of the theory. The author added the factor of financial behavior, showing how individuals cope with their routines of financial activities and this should indicate how the familiarity of the financial activities may influence the stock investment intention.

Stock Investment Intention

Investing in the stock market is considered risky, compared to savings in a bank account or buying

government bonds. From financial theory, it is assumed that investors have risk aversion as they required greater return to compensate the greater risk of their investments (Vissing-Jørgensen & Attanasio, 2003; Fagereng, Gottlieb & Guiso, 2017). Haliassos and Bertaut (1995) noted that despite the greater return of the stock market, there were only 25 percent of U.S. households investing in the stock market. Based on the study of Haliassos and Bertaut (1995), several factors significantly affected the stock holdings of American investors. For demographic factors, age, race, managerial occupation, education level and income had influences on the decision to hold stock. Other factors included risk aversion, willingness to give up liquidity and financial net worth. In addition, the operational definition of stock investment intention (shown in Table 2) was adapted from Vissing-Jørgensen & Attanasio (2003) and Fagereng et al. (2017).

Financial Attitude

The importance of the concept of financial attitude has been discussed among scholarly communities over the past decades. There are increasing numbers of research studies trying to explore the relationship between financial attitudes and other financial related variables. One of the most obvious and direct relationships is about financial attitude and financial behavior. For example, individual financial attitudes (Koropp, Grichnik, & Kellermanns, 2013; Stolper & Walter, 2017) may produce several financial behaviors and the study further found that the financial attitude can cause the owners and managers of small businesses to adopt the different small business financing practices. Van Campenhout (2015) and Kidwell, Brinberg, and Turrisi (2003) found a consistent relationship between positive financial attitudes and financial behavior. From another empirical study, Shim, Barber, Card, Xiao, and Serido (2010) investigated financial socialization and financial learning of the first-year college students and found that financial attitude indicated a significant relationship with financial behavior. To measure the financial attitude, the operation definition (shown in Table 2) was adapted from Xiao and Wu (2006); Jorgensen and Savla (2010); Koropp et al. (2013) and Stolper and Walter (2017).

Subjective Norm

Subjective norm can be defined as the subjective norm which has had a mixed and inconclusive role. It has been defined as “a person’s perception that most people important to him think he should or should not perform the behavior in question (Ajzen, 1985).” The concept of the

subjective norm in investment has been firstly mentioned in the work of East (1993). Tokuoka (2017) investigated the impact of subjective norm and stated that stock investment can be contagious among siblings. Additionally, Alqasa, Mohd Isa, Othman, and Zolait (2014) provided that there was a significant relationship between the intention to use financial services of the respondents and both subjective norm and attitudes.

The authors adopted the definitions from the past studies (including East (1993), Carpenter and Reimers (2005) and Tokuoka (2017) to use as the measurement of the factors (shown in Table 2).

Financial Behavior

Financial behavior represented the practices of an individual in using cash or credit cards and it included how a person managed one's savings (Xiao, Tang, & Shim, 2009). Based on the study of Xiao et al. (2009), financial behaviors explain the act of using or applying financial assets to achieve the expected outcome of the individuals. The outcomes can lead to an increase in earnings from savings interest rates, having a sufficient amount of cash and gaining a higher return from the investment. Referring to Kidwell et al. (2003), Xiao and Wu (2006), and Shim et al. (2010), financial behavior is defined as the desirable behaviors of individuals to improve financial well-being. Such behaviors may include the management of cash, credit, savings, and investment while financial well-being

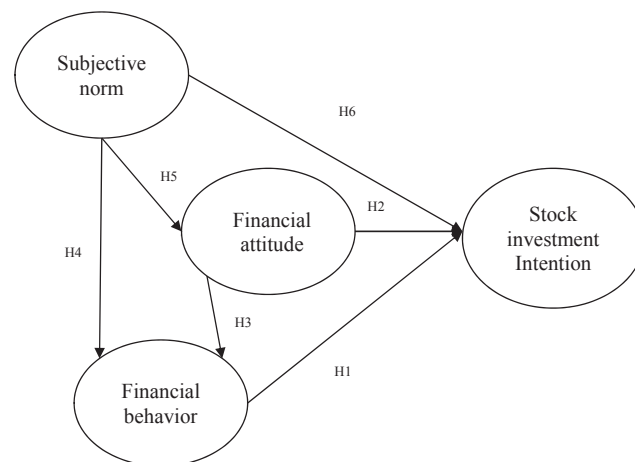
is considered the goal of financial behaviors. For the current study, the operational definition of financial behavior was developed from the works of Xiao, Tang, and Shim (2009); Kidwell et al. (2003); Xiao and Wu (2006); and Shim et al. (2010)

From the above discussions, the research hypotheses and proposed model are developed as shown in Figure 1.

Methodology

Data Collection

The target population was Thai stock investors who invested in the stock market with at least one year experience as a stock investor. The questionnaire survey was used to collect data from the target sample of respondents. With screening questions to ensure that the respondents had at least one year experience investing in the stock market, convenient sampling was used for data collection. The areas for data collection were mainly in Bangkok business districts. All factors were measured with the 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Before the actual data collection, the pre-test was conducted with 30 samples with all the factors, indicating Cronbach's alpha above 0.8. 500 copies of questionnaires were distributed to the stock investors with at least one year experience in the stock market and 348 usable questionnaires were returned for further data analysis.



- H1: Financial behavior has a positive effect on stock investment intention.
 H2: Financial attitude has a positive effect on stock investment intention.
 H3: Financial attitude has a positive effect on financial behavior.
 H4: Subjective norm has a positive effect on financial behavior.
 H5: Subjective norm has a positive effect on financial attitude.
 H6: Subjective norm has a positive effect on stock investment intention.

Figure 1 Proposed model and research hypotheses

For the sample size, based on the recommendation of Comrey and Lee (2013), Tabachnick and Fidell (2013), the sample size above 300 is generally acceptable for the structural equation model. In addition, Molwus, Erdogan, and Ogunlana (2013) noted that the sample size between 300 to 400 is acceptable for SEM.

In addition, for data analysis, the structural equation modeling technique (Wang & Wang, 2019), which is developed based on the concepts of factor analysis and path analysis, was applied. Structural equation modeling or SEM has many strengths including the ability to simultaneously evaluate the causal relationship of the complex model with latent variables. In addition, SEM provided the indicators for the overall model fit in order to support the hypothesis testing. Hair, Babin and Krey (2017) implied that for model testing, the important fit indices should also include the Comparative Fit Index (CFI) and Root Mean Squared Error of Approximation (RMSEA) to ensure both goodness and badness of fit. In the current study, several fit indices were included (e.g. CFI, RMSEA) to ensure quality of the model testing.

Data Analysis

After the completion of data collection from the respondents, SPSS software was used to analyze the descriptive statistics and reliability analysis. In order to test the relationship as proposed in the hypotheses, AMOS software was adopted to test for convergent and discriminant validity tests, confirmatory factor analysis and full model testing.

Results and Discussion

Basic descriptive statistics showed that male respondents (51.72%) were slightly higher than female respondents (48.28%). The largest age group was between 31–40 years old. The majority of the sample worked in private companies (48.56%), followed by public organization employees (29.31%). For the income group, the samples represented the income in five groups, and the largest income group was 50,001–70,000 baht (26.44%), followed by the income group 30,001–50,000 (21.55%) as shown in Table 1.

Table 2 shows the factor loadings of each construct. Four constructs showed the acceptable levels of factor loading with more than .6 indicating that all the factors met the acceptable criteria for further data analysis.

Regarding the reliability test, Table 3 confirmed that all constructs indicated the Cronbach's alpha above .8, showing an acceptable level of reliability.

According to the model fit indices in Table 4, the model met the criteria for a good fit (Hair, Hult, Ringle, & Sarstedt, 2016).

Composite reliability (CR) of all factors indicated a satisfactory level of all coefficients, which were higher than .8. The levels of AVE were greater than .5, representing the acceptable level of convergent validity. For discriminant validity, the square root of AVE was above inter-construct correlations as shown in Table 5 (in bold). In addition, MSV was less than AVE, confirming that the model showed sufficient evidence for further data analysis. All loadings were significant with $p < .001$. The diagonal elements (in bold) are the square roots of the variance between the constructs and their measures (AVEs). Off-diagonal elements are the correlations between the constructs.

The findings from Figure 2 indicated that subjective norm had the highest influence on stock investment intention, followed by financial attitude and financial behavior, respectively. In addition, the subjective norm showed a positive effect on financial attitudes. Furthermore, financial attitude and subjective norm provided significant positive effects on financial behaviors. The study offered new findings in the context of stock investment in that the influences of people surrounding the investors and the attitudes towards finance can more directly increase the level of intention to invest.

Table 1 Descriptive statistics

Characteristics	Frequency	Percent (%)
Sex		
Male	180	51.72
Female	168	48.28
Age		
21–30	90	25.86
31–40	105	30.17
41–50	89	25.58
51 and over	64	18.39
Type of work		
Private employees	169	48.56
Public organization employees	102	29.31
Own business	50	14.37
Others	27	7.76
Average Monthly Income (Baht)		
Less than 30,000	74	21.26
30,000–50,000	75	21.55
50,001–70,000	92	26.44
70,001–90,000	72	20.69
More than 90,000	35	10.06

Table 2 Factor loadings

Constructs	Item wording	Mean	SD	Factor loading
Stock investment intention (SII)				
SII1	1. I want to invest in the stock.	6.16	0.923	.800
SII2	2. It is likely that I will invest in the stock market in the near future.	6.12	0.924	.827
SII3	3. I encourage others to invest in the stock.	6.12	0.962	.771
SII4	4. I think positively about stock investment.	5.94	0.909	.765
Financial behavior (FB)				
FB1	1. I manage to have sufficient cash.	5.71	1.01	.824
FB2	2. I usually pay my bills on time.	6.05	0.837	.818
FB3	3. I regularly save money.	6.09	0.787	.807
Financial attitude (FA)				
FA1	1. It is important for a person to develop a regular pattern of saving and stick to it.	5.91	0.952	.833
FA2	2. Planning for spending money is essential to managing one's life.	5.85	0.942	.803
FA3	3. Thinking about where you will be financially in the future is essential for financial success.	5.95	0.809	.792
FA4	4. Having a written budget is essential for successful personal financial management.	5.82	0.861	.743
Subjective norm (SN)				
SN1	1. Most people who are important to me think that I should invest in the stock.	5.85	0.875	.810
SN2	2. The people in my life whose opinions I value would approve of my stock investment.	5.97	0.852	.853
SN3	3. It is expected of me that I should be able to invest in the stock market.	5.96	0.879	.752

Table 3 Reliability test

Factors	Items	Cronbach's alpha
Financial behavior (FB)	3	.856
Subjective norm (SN)	3	.843
Stock investment Intention (SII)	4	.886
Financial attitude (FA)	4	.865

Table 4 Model fit indices

Full model = Measurement model	Values	Criteria
chi-square	166.742	-
df	71	-
chi-square/df	2.348	<3
CFI	.967	>.900
NFI	.944	>.900
NNFI	.928	>.900
RMSEA	.062	<.08

Table 5 Tests of validity

Constructs	CR	AVE	MSV	MaxR(H)	SII	FA	SN	FA
SII	.889	.668	.446	.893	.817			
FA	.857	.666	.479	.935	.555	.816		
SN	.847	.650	.479	.953	.557	.692	.806	
FA	.866	.619	.476	.964	.668	.487	.690	.787

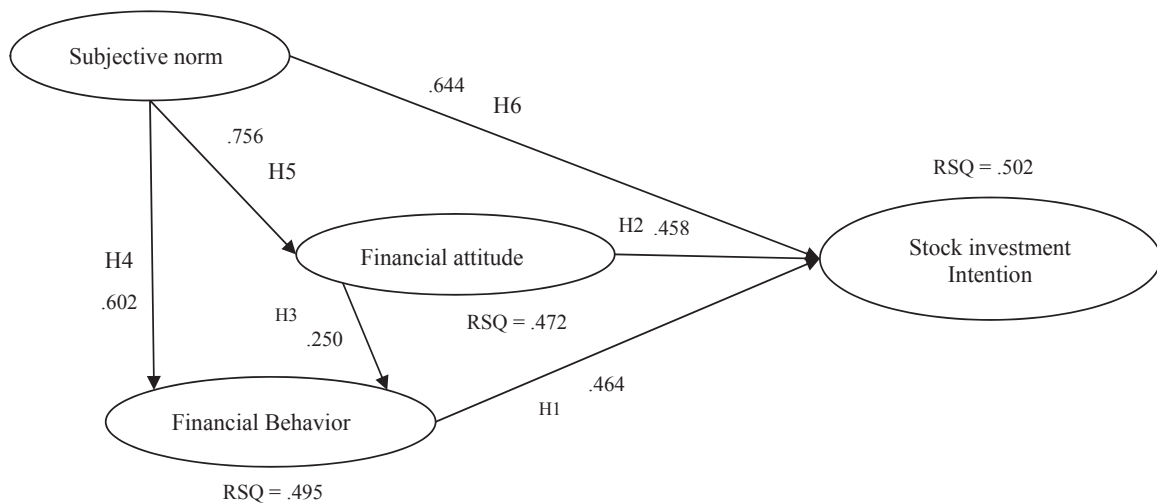


Figure 2 Structural model

The findings provided important insights and past research studies also support the relationships in model testing. This part discusses the results from the current study with the literature and past related research studies. H1: Financial behavior has a positive effect on stock investment intention (Supported). In addition, financial behavior shows a significant effect on the stock investment intention (supporting H1). Xiao et al. (2009) noted that past financial behavior can lead to other financial intentions, and this current study showed a set of basic financial behaviors, including savings management, can lead to the intention to invest in the stock market. This is also in line with the findings of Ramayah et al. (2009) who showed that financial behavior had a significant influence on investment intention. With higher involvement with financial activities, the investors are more likely to invest in the stock market. H2: Financial attitude has a positive effect on stock investment intention (Supported). Empirical evidence showed that financial attitude has positive effects on stock investment intention (H2 is supported). This is consistent with the work by Alqasa et al. (2014) and Ramayah et al., (2009). Furthermore, according to H3, the financial attitude has a positive effect on financial behavior (Supported). Many related pieces of research indicated similar findings. In addition, Hypothesis 3 confirmed the path of relationship according to the theory of reasoned action. This hypothesis was supported by (Kidwell et al., 2003; Xiao & Wu, 2006; Shim et al., 2010). For the relationship between subjective norm and financial behavior, H4 is supported. The influence of other people on financial behavior is significant, showing that people around the investors can have an impact on how the

investors manage their financial activities. In a similar context, Bansal and Taylor (2002) found the interaction between financial behavior and subjective norm. H5: Subjective norm has a positive effect on financial attitude (Supported). As predicted by the theory of planned behavior, subjective norm and attitude are quite related in the context of financial reporting (Carpenter & Reimers, 2005). According to the results, H5 was supported by the empirical test. Financial attitude showed a positive relationship with the subjective norm. It is supported by the theory of reasoned actions. Moreover, Van Campenhout (2015) and Minton, Spielmann, Kahle, and Kim (2018) implied that subjective norm has influenced attitude. For the last hypothesis, it is proposed that subjective norm has a positive effect on stock investment intention. (H6 is Supported). The earlier work of Lim and Dubinsky (2005) implied the role of subjective norm on intention to use. In the financial context, the study of Alqasa et al. (2014) confirmed that intention to use financial service had a positive relationship with the subjective norm.

Conclusion and Recommendation

Understanding the factors affecting stock investment intention is crucial to many stakeholders because the development of stock market relies on the involvement of stock investors. It is known that the stock market with larger number of investors, ranging from individual investors, institutional investors, to foreign investors can grow and increase market efficiency.

In conclusion, the current research focuses on the relationship between financial attitude, financial behavior,

subjective norm, and stock investment intention. The research achieved its goals in formulating and testing the proposed model. The results of the study can contribute to the field of behavioral finance and related disciplines because the significant relationships among many variables are as predicted and the managerial implications of the current research.

Regarding the theoretical contribution, the current study was based on the Theory of reasoned action in the context of behavioral finance. The theory proposed that attitude towards action, subjective norm, and external stimulants lead to behavioral intention. The current study extends the theory of reasoned action by introducing financial behavior, which is the act of individuals dealing with their day-to-day financial decisions as one of the predictors of stock investment intention. Results provide that financial attitudes and financial behaviors significantly affect stock investment intention and this current study helped expanded the scope and usage of the theory in the new context. In addition, little research in the field of behavioral finance applied the theory in the approach to explain the stock investment intention. Financial behavior has a direct positive impact on stock investment intention. Financial behavior in this study refers to the actions of individuals related to their general financial behaviors in their routines, such as managing expenses or controlling their savings. It is hypothesized that the investors, who regularly manage their financial activities, have a higher tendency to invest in the stock market. Furthermore, encouraging financial behaviors (e.g. expense and payment management) can increase the stock investment intention and may lead to more investment transactions to support stock market activities. In addition, the results of this study also indicate that financial attitude can directly affect stock investment intention. In this regard, having the right attitude toward money management and knowing the importance of finance and accounting, in general, will lead to the inclination for the stock investors to participate in stock investment. The findings demonstrated the importance of basic financial behaviors and attitudes on stock investment intention. By highlighting these factors, practical implications suggested the activities for the Securities and Exchange Commission (SEC) to continue to support the basic financial behaviors and promote the positive attitudes towards stock investment. The results should be that there will be more stock investment activities to support further development of the capital market to be more efficient.

It is crucial to continue to promote the importance of financial knowledge for everyday life. One of the supporting factors is that there is a growing number of books, blogs, podcasts, and television shows, promoting

and educating people about the importance of financial management and long-term planning, especially in the stock market.

Furthermore, lack of knowledge and concerns about financial literacy can lead to failure in personal financial management, resulting in bankruptcy, insufficient funding for retirement, and poverty from overspending (Ali et al., 2017; Stolper & Walter, 2017). The current study is not without limitation. The generalization of the findings may have limitation due to the nature of the cross-sectional study. Future research may explore the longitudinal study and qualitative research to follow the development of relationships among these constructs because of the fast-growing number of stock investors.

Conflict of Interest

There is no conflict of interest.

References

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl, J. Beckmann (Eds.), *Action control* (pp. 11–39). Heidelberg, Germany: Springer.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Ali, W., Frynas, J. G., & Mahmood, Z. (2017). Determinants of corporate social responsibility (CSR) disclosure in developed and developing countries: A literature review. *Corporate Social Responsibility and Environmental Management*, 24(4), 273–294.
- Alqasa, K. M., Mohd Isa, F., Othman, S. N., & Zolait, A. H. S. (2014). The impact of students' attitude and subjective norm on the behavioural intention to use services of banking system. *International Journal of Business Information Systems*, 15(1), 105–122.
- Bansal, H. S., & Taylor, S. F. (2002). Investigating interactive effects in the theory of planned behavior in a service-provider switching context. *Psychology & Marketing*, 19(5), 407–425. doi: 10.1002/mar.10017
- Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. *The Journal of Finance*, 55(2), 773–806.
- Carpenter, T. D., & Reimers, J. L. (2005). Unethical and fraudulent financial reporting: Applying the theory of planned behavior. *Journal of Business Ethics*, 60(2), 115–129. doi: 10.1007/s10551-004-7370-9
- Comrey, A. L., & Lee, H. B. (2013). *A first course in factor analysis*. London, UK: Psychology press.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. doi: 10.2307/249008
- East, R. (1993). Investment decisions and the theory of planned behaviour. *Journal of Economic Psychology*, 14(2), 337–375. doi: 10.1016/0167-4870(93)90006-7
- El Wassal, K. A. (2013). The development of stock markets: In search of a theory. *International Journal of Economics and Financial Issues*, 3(3), 606–624.
- Fagereng, A., Gottlieb, C., & Guiso, L. (2017). Asset market participation and portfolio choice over the lifecycle. *The Journal of Finance*, 72(2), 705–750. doi: 10.1111/jofi.12484
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Massachusetts, MS: Addison-Wesley.

- Hair, Jr, J. F., Babin, B. J., & Krey, N. (2017). Covariance-based structural equation modeling in the Journal of Advertising: Review and recommendations. *Journal of Advertising*, 46(1), 163–177. doi: 10.1080/00913367.2017.1281777
- Hair, Jr. J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage publications.
- Haliassos, M., & Bertaut, C. C. (1995). Why do so few hold stocks? *The Economic Journal*, 105(431), 1110–1129. doi: 10.2307/2235407
- Jorgensen, B. L., & Savla, J. (2010). Financial literacy of young adults: The importance of parental socialization. *Family relations*, 59(4), 465–478.
- Kidwell, B., Brinberg, D., & Turrisi, R. (2003). Determinants of money management. *Journal of Applied Social Psychology*, 33(6), 1244–1260. doi: 10.1111/j.1559-1816.2003.tb01948.x
- Kuo, R. J., Chen, C. H., & Hwang, Y. C. (2001). An intelligent stock trading decision support system through integration of genetic algorithm based fuzzy neural network and artificial neural network. *Fuzzy Sets and Systems*, 118(1), 21–45. doi: 10.1016/S0165-0114(98)00399-6
- Koropp, C., Grichnik, D., & Kellermanns, F. (2013). Financial attitudes in family firms: The moderating role of family commitment. *Journal of Small Business Management*, 51(1), 114–137. doi: 10.1111/j.1540-627X.2012.00380.x
- Lim, H., & Dubinsky, A. J. (2005). The theory of planned behavior in e-commerce: Making a case for interdependencies between salient beliefs. *Psychology & Marketing*, 22(10), 833–855. doi: 10.1002/mar.20086
- Minton, E. A., Spielmann, N., Kahle, L. R., & Kim, C. H. (2018). The subjective norms of sustainable consumption: A cross-cultural exploration. *Journal of Business Research*, 82, 400–408. doi: 10.1016/j.jbusres.2016.12.031
- Molwus, J. J., Erdogan, B., & Ogunlana, S. O. (2013). Sample size and model fit indices for structural equation modelling (SEM): The case of construction management research. In Y. Wang, K. Lennerts, G. Q. P. Shen, Y. Bai, X. Xue, ... W. Xue (Eds.), *ICCREM 2013: Construction and Operation in the Context of Sustainability* (pp. 338–347). Karlsruhe, Germany: American Society of Civil Engineers.
- Palm, E., Seubert, C., & Glaser, J. (2019). Understanding employee motivation for work-to-nonwork integration behavior: A reasoned action approach. *Journal of Business and Psychology*, 35, 683–696.
- Ramayah, T., Rouibah, K., Gopi, M., & Rangel, G. J. (2009). A decomposed theory of reasoned action to explain intention to use internet stock trading among Malaysian investors. *Computers in Human Behavior*, 25(6), 1222–1230. doi: 10.1016/j.chb.2009.06.007
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15(3), 325–343. doi: 10.1086/209170
- Shim, S., Barber, B. L., Card, N. A., Xiao, J. J., & Serido, J. (2010). Financial socialization of first-year college students: The roles of parents, work, and education. *Journal of Youth and Adolescence*, 39(12), 1457–1470. doi: 10.1007/s10964-009-9432-x
- Stolper, O. A., & Walter, A. (2017). Financial literacy, financial advice, and financial behavior. *Journal of Business Economics*, 87(5), 581–643. Retrieved from <https://ssrn.com/abstract=2932740>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics: International edition*. Uttar Pradesh, India: Pearson.
- Tokuoka, K. (2017). Is stock investment contagious among siblings? *Empirical Economics*, 52(4), 1505–1528. doi: 10.1007/s00181-016-1120-6
- Van Campenhout, G. (2015). Revaluing the role of parents as financial socialization agents in youth financial literacy programs. *Journal of Consumer Affairs*, 49(1), 186–222. doi: 10.1111/joca.12064
- Vissing-Jørgensen, A., & Attanasio, O. P. (2003). Stock-market participation, intertemporal substitution, and risk-aversion. *The American Economic Review*, 93(2), 383–391.
- Wang, J., & Wang, X. (2019). *Structural equation modeling: Applications using Mplus*. New Jersey, NJ: John Wiley & Sons.
- Xiao, J. J., & Wu, J. (2006). Applying the theory of planned behavior of consumers in credit counseling. *International Journal of Consumer Studies*, 30(2), 108–112.
- Xiao, J. J., Tang, C., & Shim, S. (2009). Acting for happiness: Financial behavior and life satisfaction of college students. *Social Indicators Research*, 92(1), 53–68. doi: 10.1007/s11205-008-9288-6