

Lim, Thien Sang et al.

Article

An investigation of financial investment intention using covariance-based

Global Business & Finance Review (GBFR)

Provided in Cooperation with:

People & Global Business Association (P&GBA), Seoul

Suggested Citation: Lim, Thien Sang et al. (2020) : An investigation of financial investment intention using covariance-based, Global Business & Finance Review (GBFR), ISSN 2384-1648, People & Global Business Association (P&GBA), Seoul, Vol. 25, Iss. 2, pp. 37-50, <https://doi.org/10.17549/gbfr.2020.25.2.37>

This Version is available at:

<https://hdl.handle.net/10419/253299>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by-nc/4.0/>



An Investigation of Financial Investment Intention using Covariance-Based Structural Equation Modelling

Thien Sang Lim^{a†}, Rasid Mail^b, Mohd Rahimie Abd Karim^c,
Zatul Karamah Abdul Baharul Ulum^d, Mazalan Mifli^a, Junainah Jaidi^a

^aSenior Lecturer, Faculty of Business, Economics & Accountancy, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia

^bProfessor of Accountancy, Faculty of Business, Economics & Accountancy, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia

^cAssociate Professor of Finance, Faculty of Business, Economics & Accountancy, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia

^dAssociate Professor of Finance, Universiti Malaysia Faculty of Entrepreneurship and Business, Pengkalan Chepa, Kelantan, Malaysia

A B S T R A C T

Purpose: Decision-making process about financial investment is complicated. Relying on modern financial theory to explain behaviours of individual investors is inadequate because it focuses on the objective risk as the determinant for making investment decisions under the assumption that individuals are rational. The current study, which was built from the financial, sociological and psychological perspectives, investigated the predictors of risk perception and determined the association of risk perception and attitude toward financial investment intention. This study served the purpose of unravelling the complexity of the financial investment decision-making process among individuals.

Design/methodology/approach: The research framework was based on Perception Formation Model (PFM) with further support from the Theory of Planned Behaviour, decision making models under risk, and knowledge-attitude-behaviour model. Purposive-sampling method was adopted. The dataset, which consisted a total of 492 responses from income earners below the age of prime savings years were entered for analysis. Twelve hypotheses were tested using the Analysis of Moment Structures (AMOS) statistical software.

Findings: Measurement-model assessment revealed the data fitted well to the research model Results from the structural-model assessment revealed subjective knowledge, peer influence, internet influence, and risk propensity had a significant relationship with favourable risk perception. Consistent with the PFM proposition, it was found favourable risk perception significantly related to higher intention toward financial investment.

Research limitations/implications: The resultant outcomes strengthen the understanding of how financial investment decision is performed by individuals, which is crucial in the personal-finance industry, especially in promoting a long-term and meaningful client-advisor relationship. Interestingly, objective knowledge, which measured the actual level of financial knowledge was found to be insignificantly associated with risk perception and intention toward financial investment. As a sizeable financial literature posited financial knowledge has impact on decision-making process, future study could perhaps examine whether objective knowledge could contextually alter the relationship between predictors and the endogenous variable.

Originality/value: The study has successfully identified several predictors for risk perception about financial investment and provided an empirical link for knowledge-perception-attitude-intention, thus, enriching the behavioural finance literature. The research model was robust as it was formulated based on the three major pillars of behavioral finance, namely: financial, sociological, and psychological perspectives.

Keywords: Behavioural Finance, Risk Perception, Risk Attitude, Financial Investment, Structural Equation Modelling

Received: Jan. 30, 2020; Revised: Jun. 20, 2020; Accepted: Jun. 25, 2020

† Thien Sang Lim

Email: tslim@ums.edu.my

I . Introduction

The concept of financial decision making has long been dominated and explained by traditional finance theories. Nevertheless, the effectiveness of these theories in describing risk-taking behaviours among individual investors was questioned. Over the years, many researchers in financial markets and personal finance have discovered inconsistent results with regard to the notion of rationality (Capon et al., 1996; Dulebohn and Murray, 2007; Gooding, 1975; McGregor et al., 2000; Olsen, 1997), especially those in relation with making risky financial decisions (Diacon and Ennew, 2001; Diacon and Hasseldine, 2005; Loewenstein, 1999; Vlaev et al., 2009). These discrepancies suggest that an alternative view must be brought forward to explain how individuals make financial investment decisions.

Despite the significance of financial planning for each individual in the society, Khazanah Research Institute reported that the saving rate among Malaysians is trending downward (The Star, 2016). It is recorded by AKPK (2018) that three out of 10 working adults in Malaysia need to borrow money to purchase essential goods and more than half of those earning below RM2,000 cannot even afford RM1,000 emergency expenses. These figures further suggest that young Malaysians are currently either facing a serious lack of interest in financial investment or not practicing prudent personal financial management. Hence, in evaluating the complexity of the financial decision-making process, this study examined the determinants of risk perception as well as whether risk perception and attitude play a crucial role in the behavioural intention toward financial investment. The survey data of individuals under the 'prime saving years' (Poterba, 2001) was employed as this group of people has been typically linked to financial knowledge inadequacy (Lim et al, 2014; Osman et al., 2008; Sabri et al., 2010) and financial mismanagement (BERNAMA, 2015; Duasa and Yusof, 2013; Jariah et al., 2004; The Star, 2016).

II . Literature Review

While the notion of risk perception was initially introduced by Bauer (1960) to explain consumer risk-taking behaviours, Ricciardi (2008) clarifies that this concept is applicable to understanding financial behaviour. In the context of making investment decisions, risk perception is utilised by investors as part of a subjective judgment process when gauging the level of investment risk (Ricciardi and Rice, 2014). According to behavioural finance viewpoint, the perceptual process in terms of risky decision making is complex. It is also directly linked to the way information is processed in the real world which is governed by the behavioural finance assumptions of bounded rationality, heuristics and biases, cognitive elements, and emotional factors (Ricciardi, 2004, 2008). Perception Formation Model (PFM) that was forwarded by Litterer (1965) explains that perception formation is affected by multiple factors and the way in which an issue is perceived will consequently influence individuals' behaviour. This model further suggests that only certain information will be selected (the notion of selectivity) as people are hampered by their inability to acquire and digest all information.

In parallel with the bounded rationality concept, rationality of people is restricted by their reasoning constrictions (Simon, 1955) to process all information especially in making risky financial investment decision under limited time. In order to avoid information overload, people tend to process the type of information based on their level of knowledge and surrounding value system. Even when people are expected to act concurring to normative theory (theoretical models of efficient financial markets are classified as normative), their decisions can be inconsistent with the normative theory when confronting with fresh information that link to indefinite situations (such as making financial investment). Besides the level of financial knowledge, other key factors of perception on financial investment (include forming attitudes, absorbing values, and obtaining interpretation) are reference groups. This element refers to the groups

of people in which an individual can relate to and whose opinions and beliefs can be influenced. With regard to the study of behavioral finance, examples of reference groups include family members, relatives, friends or even colleagues, as well as the influence of the Internet. All in all, the better approach to study financial decision making among individuals is through interdisciplinary linkages of three pillars: financial, sociological and psychological perspectives (Ricciardi & Simon, 2000). Sociology offers understanding in what manner the attitudes and conducts of people are shaped by qualities of social connection; psychology provides explanations on how the reasoning process is modified by ones' psychological and physical conditions along with related outer surroundings; whereas finance emphasises on concerns relate to value assessment as a function of resources attainment and distribution; i.e. financial investments.

It is noted that financial knowledge can influence risk perception, attitude toward financial investment, and behavioural intention toward financial investment (Lim et al., 2018). As a type of information that is kept in memory, financial knowledge can be utilised by individuals to produce innate and useful property of the knowledge as well as make reasoning and explanation regarding their financial decisions (Alba and Hutchinson, 2000). Perry and Morris (2005) showed financial knowledge has the most effect on causing sensible financial behaviour, while Wang (2009) confirmed financial risk taking, objective knowledge, subjective knowledge are correlated. As far as this research is concerned, two components of financial knowledge are employed, namely objective knowledge and subjective knowledge.

Objective knowledge is measured using questions related to interest rate, saving, unit trust, shares, risk and return, diversification, time-value of money, inflation, and so on and so forth. Typically, individuals with a higher level of objective knowledge can employ category-based processing because the tendency for the development of a set of expectations about financial products is also higher (Wang, 2009). This condition suggests that individuals who are financially literate will have a better understanding of financial information

because the real or actual knowledge helps them digest the information pertaining to an investment product. Moreover, those with a higher level of objective knowledge are expected to possess a clearer idea about the concept of investment alongside its risk characteristics and they are also less likely to feel threatened by financial information. Individuals who possess financial literacy can easily identify the right indicators as well as their functions and significance in affecting the performance of investment options. A lot of the uncertainties related to the investment will be eliminated because these people are aware that their decisions to face or to avoid certain risks are knowledge guided. They tend to be open-minded and have a positive outlook about financial investment in general. Individuals with good financial knowledge will also acknowledge that investment activity is one of the effective ways to beat inflation which further results in wealth preservation. Besides, diversification will be understood as a useful concept to reduce risks without forgoing much potential return. As they are more aware of factors affecting investment returns, individuals with excellent financial knowledge can develop better investment plans that conform to their own preferences and goals. Facts and figures will be the foundation of their investment plans rather than depending on heuristic cues. Accordingly, the current research postulates that individuals with higher levels of objective knowledge have favourable risk perception and attitude toward financial investment, as well as a higher degree of preparedness (readiness) to engage in financial investment activities.

Subjective knowledge refers to individuals' perception of things that they know (Brucks, 1985). Despite subjective knowledge is doubtful to assist efficiency in differentiating variability of attribute search as well as affect the capability to formulate the benefit/cost ratio of acquiring financial information, Brucks (1985) and Raju et al. (1995) contended that self-assessed knowledge may have a positive influence on confidence levels. This argument denotes that individuals who think that they know more have higher confidence. Simultaneously, those who consider themselves

unfamiliar with investment knowledge may have more difficulties in processing financial information due to low self-confidence. In contrast, individuals with high levels of subjective knowledge may find it easier to process financial information and they will also make decisions based on the confidence level of their self-assessed knowledge. Based on previous studies that examined subjective knowledge and behaviour in other functional area of business including consumer research, it was discovered that individuals who give high rating to their self-knowledge tend to have positive perception and attitude in addition to being receptive to new ideas and products (Wildavsky and Dake, 1990; Aertsens et al., 2011). Robb and Woodyard (2011) uncovered not only that subjective financial knowledge and financial behaviour were related, but comparing to objective financial knowledge, subjective knowledge had a greater impact on financial behaviour. Hence, it is predicted that subjective knowledge has a positive association with favourable Risk Perception, attitude toward financial investment, and financial investment intention.

Nofsinger (2005) asserted that investors' actions are driven by what they think. He further argued that what people's thinking is derived from their feeling, which is also affected by their interactions with other people. Additionally, it has been argued that the moods or activities of investors are related to human interactions which result in the formation of consensus opinion that may affect the individual decision-makers (Prechter, 1999; Nofsinger, 2005). Based on a study that examined the association between social influence and trading and stock returns by individual investors, Shive (2010) found that individual investor trading has a significant relationship with social effects. Hilgert et al. (2003) investigated the predictors of financial behaviour and concentrated on four general types of financial habits: saving, debt management, cash-flow management and investments. The results showed that respondents picking up about financial affairs from family and friends and is also substantially linked to positive improvements in financial behaviours. While speeches and writings were the main mediums of communication historically,

the advancement of technology today has resulted in the communication innovation such as broadcasting, telecommunication, and most recently social medias on the Internet (Shiller, 1995; Han, 2019). The technological evolution that is especially related to internet platform has produced a more rapid exchange of information and opinions. It is believed that the advent of social media platforms such as blogs, Twitter, and Facebook, coupled with a vast improvement in the portable device technologies such as handheld computer tablets and smartphones can further improve human interactions. Social interactions with colleagues, friends, family members, and the Internet are considered as an essential avenue to propagate information and ideas effectively (Shanmugham and Ramya, 2012). Not only do individual investors discuss with their family members, colleagues, and friends about financial investments, investment views and decisions are also influenced by these people (Nofsinger, 2005). Thus, it is predicted that social influence agents including family members, peers, and the Internet have a positive relationship with risk perception.

According to Dulebohn and Murray (2007), risk propensity is defined as the general risk orientation of individuals with regard to financial investment contrary to their attitudinal preferences for investment risk. As far as the present research is concerned, risk propensity refers to the tendency of an individual to face or avoid risk. Risk propensity has often been conceptualised as a risk-taking tendency by decision-makers. Research models proposed by Brockhaus (1980), Sitkin and Pablo (1992), Sitkin and Weingart (1995) and Dulebohn and Murray (2007) indicated that risk propensity can affect risk perception; while Ulleberg and Rundmo (2003) discovered that risk-seeking desire has an impact on risk perception. These findings signify that individuals with a higher level of risk propensity are more inclined to underestimate the levels of risk of an investment. Hence, it is deduced that risk propensity is positively associated with favourable risk perception.

Previously, many theorists contended that one's perception will directly affect one's behaviours. Litterer (1965) explained that towards the end of

the closure stage, “a whole picture” will be constructed by individuals based on parts of information in order to create a meaningful entirety. This conception proposes that people would ‘close’ the thinking process and form a perception regarding a specific issue. Subsequently, individuals’ behaviour will be influenced by their perception. March and Shapira (1987) suggested that when situations are perceived as favourable, people will focus on the inherent opportunities of such situations which will then produce risk-seeking behaviour. Their postulation was further confirmed by later research which discovered that risk-taking behaviour seems to be affected by people’s perception on the activities’ benefits and risks (Weber et al., 2002). More recent survey of 430 individual investors revealed the personality traits and perceived risk affect the outcomes of financial investment (Phung and Mai, 2017). In addition, it discovered perceived risk significantly mediated the relationship between the personality traits (openness, extraversion, and neuroticism) and outcomes of financial investment. Hence, individuals who perceive investment risk positively have a higher likelihood to engage in financial investment.

Individuals’ overall evaluation (either favourable or unfavourable) pertaining to the engagement of financial investment activities can be reflected from their attitude toward financial investment itself. The results of 16 previous studies were analysed by Ajzen (1991) in order to assess the connection between attitudes and behavioural intention, among others. One of the verdicts of this analysis was that attitudes toward various behaviours resulted in a noteworthy contribution to the forecast of intentions. Similarly, in examining behavioural intention pertaining to online share trading, Lee (2009) and Ramayah et al. (2009) have found that attitude has a direct positive impact on behavioural intention to use online trading. Another research that investigated the determinants of investment intention among individuals also deduced that attitude has a strong positive relationship with intention towards trading (Shanmugham and Ramya, 2012). Sahi et al. (2013) advocated individuals

utilise numerous filters in interpreting the information made available to them, and the filtering process is linked to the designs of the human mind in relation to making financial investment decisions. They showed people have numerous perceptions and attitude preferences that bias their decision-making process related to financial investment. Thus, it is postulated that attitude toward financial investment and its behavioural intention are positively linked.

III . Methods

Variable measures employed in this study, namely financial investment intention (Lam and Hsu, 2006), objective knowledge (van Rooiji et al., 2011), subjective knowledge (Flynn and Goldsmith, 1999), family influence, peer influence, internet influence (Jorgensen and Salva, 2010), risk propensity (Dulebohn and Murray, 2007), risk perception (Hoffman et al., 2013), and financial investment attitude (Lee, 2009; Ramayah et al., 2009) were sourced from past research. Apart from objective knowledge which was directly measured, all other constructs were observed using multiple items and operationalised using a Likert scale. The research instrument was pretested and piloted rigorously (Lim et al., 2017) prior to the actual survey. Purposive sampling was employed and the face-to-face survey was conducted among income earners between 19 to 39 years old from the Peninsular Malaysia, Sabah, and Sarawak. Besides, the dataset was inspected for omissions, ambiguities, and inconsistencies before it was processed for statistical screening. This screening was performed in order to check for correctness of entry, missing values, monotone cases, outliers, and assumption of normality distribution. Additionally, various procedural remedies proposed by Podsakoff et al. (2003) were implemented to ensure that common method variance (CMV) was not apparently present. The dataset was also tested using Harman’s single factor test (Podsakoff and Organ, 1986), i.e. a statistical procedure to

confirm that CMV was absent. The respondents' profiles are presented in Table 1.

IV. Results and Discussion

Two stages are performed in the Structural Equation Modelling, namely the measurement model assessment (MMA) and the structural model assessment (SMA). The MMA under AMOS is undertaken to ensure that the data fit the model and that the model is free from issues caused by unidimensionality, internal consistency reliability, convergent validity, and discriminant validity. After 21 iterations were conducted, the research model attained a good fit. Results showed that CMIN/DF was 2.022 (lower than 3), GFI, NFI, TLI, and CFI were 0.911, 0.918, 0.949 and 0.956 respectively (all higher than 0.90), RMSEA was 0.046 (lower than 0.050), and SRMR was 0.0375 (less than 0.08). It was also found that the Chi-Square was 749.987 with a degree of freedom of 371. The significance of the Chi-Square statistic was lower than 0.05 (p-value = 0.00) due to the large sample size (> 200).

Table 2 illustrates that all items had good loadings above 0.50, and hence, unidimensionality is not an issue. The composite reliability (CR) values were between 0.70 and 0.90, further confirming that the internal consistency reliability of construct was attained (Hair et al., 2014). The convergent validity was established as the AVE values for all constructs were more than 0.50. Furthermore, the square root of AVE values of all the multiple-item constructs was employed to examine the discriminant validity. These values were then compared with correlations of other constructs. Based on the diagonal values, discriminant validity was attained since the square root of AVE values were higher than all correlations (in row and column) of the constructs.

Figure 1 illustrates the structural paths of the research and as evidenced by various fitness indicators, the data fitted adequately to the structural

Table 1. Profile of Respondents (N = 492)

Demographic Variables	Percentage
<i>Gender</i>	
Male	36.3
Female	63.7
<i>Occupation Sector</i>	
Government	35.6
Private	51.6
Business/Self-employed	12.8
<i>Retirement Scheme</i>	
Public Pension	28.9
Employee Provident Fund	52.4
None	18.7
<i>Marital Status</i>	
Single	50.6
Married	47.6
Divorced/Widower	1.8
<i>Education Level</i>	
Primary School	1.0
Secondary School	27.3
Diploma/University Degree	71.7
	Min Max Mean Std Dev
<i>Age</i>	19 39 28.71 6.098
<i>Monthly Income (RM)</i>	500 10000 2909.47 1830.819

model. The analysis of the 12 hypotheses and the resultant outcomes are presented in Table 3. It was discovered that nine direct paths were significant (t-value > 1.645, p-value < 0.05, one-tailed). The estimated R-squared for risk perception, attitude, and behavioral intention were 0.54, 0.59 and 0.38 respectively, which can be considered to have a substantial explanatory power (Cohen, 1988 as cited in Cohen, 1992) and deemed as high (exceeds 0.20) for behavioural research (Hair et al., 2014).

While subjective knowledge was found to be positively and significantly linked to favourable risk perception, objective knowledge did not demonstrate any significant association with risk perception. The significant relationship between subjective knowledge and risk perception suggested that respondents who regarded themselves as financially literate would perceive financial investment to be safe. Although

Table 2. Factor Loadings, Internal Reliability, Convergent Validity, and Discriminant Validity

Construct	Item	Loadings	CR	AVE	Att	Fam	SK	Peer	INT	RP	PER	BI
Attitude toward Financial Investment (Att)	Att5	0.804	0.873	0.632	<u>0.722</u>							
	Att4	0.810										
	Att2	0.720										
	Att1	0.752										
Family Influence (Fam)	Fam6	0.790	0.788	0.567	0.165	<u>0.753</u>						
	Fam4	0.909										
	Fam2	0.500										
Subjective Knowledge (SK)	SK4	0.776	0.807	0.513	0.570	0.166	<u>0.795</u>					
	SK3	0.763										
	SK2	0.849										
	SK1	0.790										
Peer Influence (Peer)	Peer6	0.752	0.866	0.619	0.353	0.450	0.416	<u>0.716</u>				
	Peer4	0.777										
	Peer3	0.697										
	Peer1	0.631										
Internet Influence (INT)	INT5	0.767	0.888	0.666	0.479	0.221	0.498	0.483	<u>0.787</u>			
	INT4	0.870										
	INT2	0.761										
	INT1	0.742										
Risk Propensity (RP)	RP4	0.766	0.855	0.597	0.620	0.191	0.561	0.403	0.552	<u>0.816</u>		
	RP3	0.832										
	RP2	0.815										
	RP1	0.849										
Risk Perception (PER)	RP3	0.787	0.856	0.667	0.733	0.159	0.639	0.431	0.517	0.605	<u>0.817</u>	
	RP2	0.751										
	RP1	0.904										
Behavioural Intention toward Financial Investment (BI)	BI6	0.828	0.886	0.662	0.498	0.120	0.565	0.323	0.417	0.473	0.516	<u>0.813</u>
	BI4	0.826										
	BI2	0.747										
	BI1	0.849										

it has been argued that subjective knowledge is unlikely to provide efficiency in the processes of searching and interpreting information (Brucks, 1985), self-proclaimed financial literate individuals display a higher level of confidence and open-mindedness. They may also find it more effortless to handle financial information. This group of people tend to process and apply information to make decisions based on the confidence level of their self-rated knowledge. These results further suggested

that in comparison to objective knowledge, subjective knowledge was a stronger impetus with regard to risk perception of financial investment. The confidence of individuals with lack of actual financial knowledge may be boosted by self-assessed knowledge when they are in an unfamiliar position to analyse certain financial information. Consequently, individuals consider themselves to be more knowledgeable in finance may cast less doubt on their own capabilities to make “correct” financial decisions. They are also

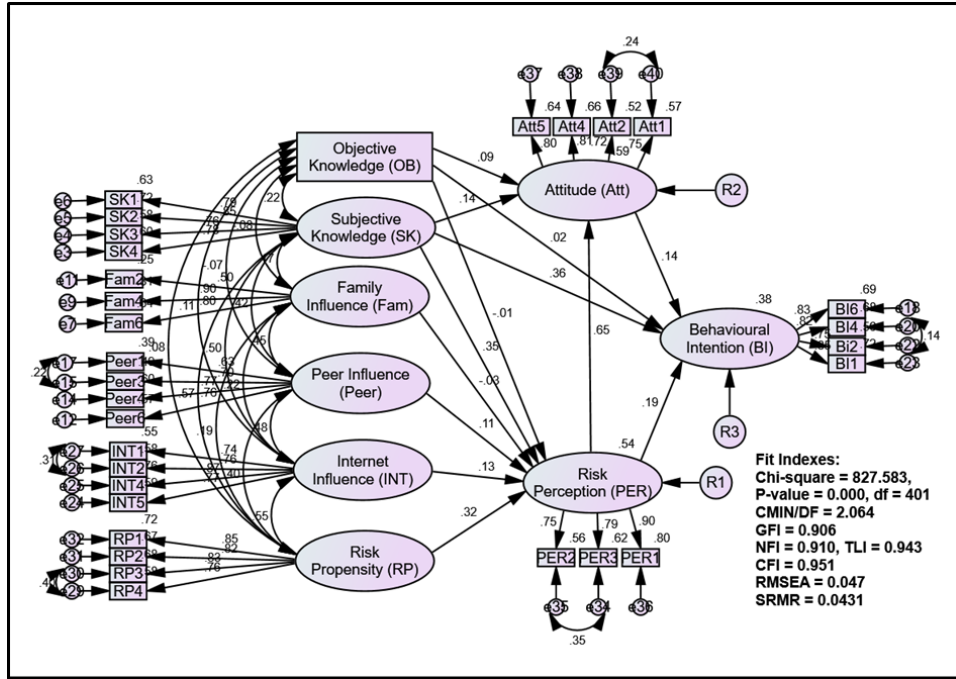


Figure 1. Structural Model of the Research

Table 3. Results of Hypothesis Test

Path Hypothesis	Beta	S.E.	C.R.
	Estimate		(t-value)
H1: Objective Knowledge → Risk Perception	-0.004	0.019	-0.184
H2: Subjective Knowledge → Risk Perception	0.330	0.054	6.061**
H3: Family Influence → Risk Perception	-0.032	0.043	-0.737
H4: Peer Influence → Risk Perception	0.110	0.056	1.977*
H5: Internet Influence → Risk Perception	0.126	0.052	2.405**
H6: Risk Propensity → Risk Perception	0.310	0.055	5.596**
H7: Objective Knowledge → Attitude	0.043	0.019	2.291*
H8: Subjective Knowledge → Attitude	0.129	0.054	2.378**
H9: Objective Knowledge → Behavioural Intention	0.021	0.042	0.500
H10: Subjective Knowledge → Behavioural Intention	0.699	0.124	5.649**
H11: Risk Perception → Behavioural Intention	0.394	0.173	2.271*
H12: Attitude → Behavioural Intention	0.289	0.162	1.781*

Note: * p < 0.05, ** p < 0.01

more likely to perceive greater benefits of new undertakings in financial investment compared to those who have less confidence in their financial knowledge.

Fabrigar et al. (2006) claimed that knowledge is an essential property of attitude and how knowledge is evaluated will influence the association between knowledge and attitude effectively. The current

research discovered that attitude toward financial investment is formed by respondents in terms of its own relevance, i.e., whether it was good/favourable or bad/unfavourable. It is evident that individuals who were financially literate (objective knowledge, H7) or who considered themselves to have a better understanding about finance (subjective knowledge, H8) tend to form good/favourable attitudes toward financial investment.

Results have shown that peer influence and internet influence had a significant association with risk perception in contrast to family influence. The positive impact of both peer influence and internet on risk perception denotes that a higher level of peer/internet influence will result in a more favourable perception of financial investment risk. Even though matters related to financial investment were often regarded as important and sensitive, these findings suggest that peer and internet influences superseded family influence in perception formation among the respondents.

Data from Pew Research Centre (PRC, 2016) revealed that approximately 85 per cent of Malaysian adults used social networking sites (such as Facebook and Twitter) and social applications for smartphones (such as WhatsApp and WeChat). Since they are 'hungry for social interaction', it was further claimed that social networking is especially prevalent among young adults in order to stay in touch with their circle of peers (PRC 2016, page 21). It has been suggested that the level of education is directly and significantly linked to social networking usage (PRC, 2016). Hence, it is rational to make the inference that the majority of respondents (more than 70 per cent attended college) herein uses social networking regularly, indicating that peer influence was crucial for perception formation. Moreover, social networking sites and social mobile applications serve as the avenue that improves (in terms of frequency and intensity) peer/group interactions. Individuals can easily join and create purpose-specific groups or sites, including to solely share and discuss matters pertaining to financial investment. Social network users are given the option to stay anonymous, thus, lowering the sense of embarrassment (Cheng, 2000) to learn and

enquire about the subject of financial investment. Therefore, it is proposed that the presence of the Internet, provides an effective platform for people to stay in touch with each other.

The significant relationship between peer influence and risk perception as well as the absence of association between family influence and risk perception are fascinating. In contrast to family interaction, peer interaction seems to play an important role with regard to financial investment matters as it is possibly driven by the existence of social networking. The improved interactions among peers compared to family interactions denotes that perception formation is more influenced by peer interaction domain. It should also be highlighted that the research outcome which supports peer influence as a key predictor with regard to financial decision-making is consistent with that of previous studies (Duflo and Saez, 2002; Hong et al., 2004; Brown et al., 2008).

Despite the absence of significant association between family influence and risk perception in the present research, several theoretical arguments and prior results (Levy and Lee, 2004) have proved otherwise. Communication theories explained that the manner in which family members describe their financial perceptions, beliefs, and identity is very much linked to the family interaction regarding finance (Zmyslinski-Seelig, 2016). Even though the financial discussion is essential, many individuals consider it to be challenging even in close relationships such as among family members (Trachtman, 1999). This finding indicates that the communication pertaining to financial aspects, including investment, can be complicated for many people regardless of the close relationship shared between the family members. For many, discussion about finance is off-limits (Zmyslinski-Seelig, 2016) as it may cause embarrassment and further conflicts (Trachtman, 1999). It should also be emphasised that communication about money can be considered as taboo or forbidden in certain families (Alsemgeest, 2014).

The hypothesis of the current study which associated risk propensity and risk perception was supported. Since the respondents were not in their prime saving

years yet, they were assumed to be inactive financial investors. Despite this consideration, their personality trait with regard to risk-taking propensity has been statistically proven as a significant explanatory factor for perception formation. Individuals with a high tendency for risk-taking behaviour perceived financial investment to be safe and has low risk. This deduces that individuals who are more likely to face financial risk may be more inclined to underestimate the levels of risk linked to an investment option and/or they tend to pay more attention to favourable investment outcomes. It should be emphasised that the current result has further confirmed previous postulations made by Brockhaus (1990), Sitkin and Pablo (1992), Sitkin and Weingart (1995) and Dulebohn and Murray (2007). The research finding further expanded the understanding of risky decision-making process as it highlighted the risk-taking aspects pertaining to personal finance.

It is quite intriguing to note that the result indicated objective knowledge had an insignificant association with behavioural intention toward financial investment (H9). The lack of actual financial knowledge among the respondents is a plausible reason for the failure to obtain a significant relationship between objective knowledge and behavioural intention. Furthermore, the claim that the respondents were financially illiterate is deemed valid considering the measurement items only covered basic and common financial aspects and they were also prepared in the form of multiple/true-false choice questions. Based on the analysis, the overall financial literacy score was lower than the midpoint scale of 5 (0-to-10-point scale). The respondents' actual understanding of financial data may be adversely affected, making it harder to digest the information relevant to an investment option. Thus, this factor may explain why objective knowledge did not exhibit any strong association with the intention, likelihood, anticipation, and desire to engage in financial investment activities.

In contrast to objective knowledge, the component of subjective knowledge was discovered to have a significant relationship with behavioural intention toward financial investment (H10). This positive

association between the two variables imply that those who proclaimed to have excellent financial knowledge tend to demonstrate more intention, likelihood, anticipation, and desire to participate in financial investment. Previous research also suggested that these individuals typically display more confident personality (Bruck, 1995; Raju et al., 1995) and this finding was reflected by item SK3 "I think I know enough about financial investment to feel pretty confident when I invest". Based on the belief that they are capable to make a good investment (SK2: "I know how to judge the quality of a financial investment"), these people are less worried about the idea of investment which eventually leads to a higher tendency to invest. This particular finding correlates with the study performed by Wang (2009) which also discovered that subjective knowledge and risk taking were positively correlated.

Based on the analysis of H7 that was developed to examine the association between risk perception and intention, a more favourable risk perception on investment was revealed to have a positive and significant link to the intention toward financial investment. The respondents who considered the financial investment as safe or have less risk are more inclined to engage in financial investment in the near future. It should be emphasised that the research outcome has validated the arguments advanced in PFM (Literrer, 1965) and in risk-taking behaviour models (Sitkin and Pablo, 1992; Sitkin and Weingart, 1995). This result is also consistent with viewpoints of many theorists who contended that perception and behaviour are somehow directly linked (Mischel, 1973; March and Shapiro, 1987; Weber et al., 2002; Nasic and Weber, 2010).

Individuals tend to focus on the prospect inherent with the financial investment when they perceive that the investment is favourable, further resulting in risk-seeking behaviour (March and Shapiro, 1987). For instance, they may display more deliberate intention to be involved in financial investment activities. Since the result has proven that risk perception accounts for significant variance in behavioural intentions, gauging the individuals' opinions pertaining

to the risk of financial investment can be an effective approach in determining the appropriate investment type. A lower risk option can be recommended when individuals perceive certain investment options as risky, and vice versa. The finding also suggests that investment options that are nearly risk-free can be offered to risk-averse individuals. In other words, a tailored-made investment package can be formed according to individuals' risk perceptions.

As presented in Table 3, it was verified by H12 that a positive attitude was associated with more intention toward financial investment. In comparison to perception which is more synonymous to subjective feeling or thought, the concept of attitude carries a stronger reflection of ones' settled state of minds and it is commonly connected with some elements of verdict or evaluation (Eagly and Chaiken, 1993), such as good versus bad, positive versus negative, or wise versus foolish. The resultant finding implies that individuals who regard financial investment as a positive, wise, and beneficial idea in earning additional income have more intention, prospect, anticipation, and desire toward financial investment. In terms of the financial decision-making process, the result signified that people are ready and willing to face financial risk if they are convinced such risk is worth taking; the investment risk itself does not hinder people from investing. More specifically, one of the determining factors is people's evaluation of the investment risk. The same type and level of financial risk may be assessed differently by two different individuals, and this phenomenon is conflicting with the traditional finance theories such as the CAPM. The current result which supports H8 also corroborates past findings that were based on western context, including research in finance (Lee, 2009; Ramayah et al., 2009; Shanmugham and Ramya, 2012) and non-finance fields (Ki and Hon, 2012; Ulleberg and Rundmo, 2003).

V. Conclusion

Decision-making process in terms of financial risk-taking is complex. The present research has contributed several important findings that clarify the roles of risk perception that further consolidate behavioural finance theory in explaining the decision-making process. Apart from successfully identifying several predictors of risk perception pertaining to financial investment, this study has also provided an empirical link for knowledge-perception-attitude-behaviour. Accordingly, future research is recommended to examine individuals' risk perception from the later stage of life (between 40 to 60 years of age) when they are at their prime saving years. Another interesting future research suggestion is to examine whether the level of actual financial knowledge of individuals would contextually change the relationship between the predictors of risk perception and intention toward financial investment. A longitudinal study, if commissioned on this aspect, may also advance a richer perspective as it allows for the development and changes in risk perception, attitude, and financial investment behaviour of the respondents to be identified over time.

References

- Aertsens, J., Mondelaers, K., Verbeke, W., Buysse J., & Van Huylenbroeck, G. (2011). The influence of subjective and objective knowledge on attitude, motivations and consumption of organic food. *British Food Journal*, 113(11), 1353-1378.
- Agensi Kaunseling dan Pengurusan Kredit (AKPK). (2018). Financial Behaviour and State of Financial Well-Being of Malaysian Working Adults. *AKPK Financial Behaviour Survey 2018* (Afbes'18).
- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2), 179-211.
- Alba, J., & Hutchinson, J. W. (2000). Knowledge Calibration: What Consumers Know and What They Think They Know. *Journal of Consumer Research*, 27(2), 123-156.
- Alsemgeest, L., (2014). Family Communication about Money:

- Why the Taboo?. *Mediterranean Journal of Social Sciences*, 5(16), 516-523.
- Bauer, R. A. (1960). Consumer behaviour as risk taking. In R. S. Hancock(ed.), *Dynamic Marketing for a Changing World* (pp. 389-398). American Marketing Association, Chicago.
- BERNAMA. (2015). Malaysia's Gen Y Living on The Financial Edge - Study (<http://www.bernama.com/en/business/news.php?id=1179734>)
- Brockhaus, R. H. (1980). Risk, taking propensity of entrepreneurs. *Academy of Management Journal*, 23(3), 509-520.
- Brown, J., Ivkovich, Z., Smith, P., & Weisbenner, S. (2008). Neighbors Matter: Causal Community Effects and Stock Market Participation. *Journal of Finance*, 63(3), 1509-1531.
- Brucks, M. (1985). The effects of product class knowledge on information search behavior. *Journal of Consumer Research*, 12(1), 1-16.
- Capon, N., Fitzsimons, G. J., & Prince, R. A. (1996). An Individual Analysis of the Mutual Fund Investment Decision. *Journal of Financial Services Research*, 18(1), 59-74.
- Cheng, X. (2000). Asian students' reticence revisited. *System*, 28(3), 435-446.
- Cohen, J. (1992). Statistical Power Analysis. *Psychological Science*, 1(3), 98-101.
- Diacon, S., & Ennew, C. (2001). Consumer Perceptions of Financial Risk. *The Geneva Paper of Risk and Insurance*, 26(3), 389-409.
- Diacon, S., & Hasseldine, J. (2005). Framing Effects and Risk Perception: The Effect of Prior Performance Presentation Format on Investment Fund Choice. *Centre for Risk & Insurance Studies I(CRIS) Discussion Paper Series 2005.II*, University of Nottingham.
- Duasa, J., & Yusof, S. A. (2013). Determinants of risk tolerance on financial asset ownership: A case of Malaysia. *International Journal of Business and Society*, 14(1), 1.
- Duflo, E., & Saez, E. (2002). The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior. *Journal of Public Economics*, 85, 121-148.
- Dulebohn, J. H., & Murray, B. (2007). Retirement Savings Behavior of Higher Education Employees. *Research in Higher Education*, 48(5), 545-582.
- Eagly, A. H., & Chaiken, S. (1995). Attitude strength, attitude structure, and resistance to change. *Attitude strength: Antecedents and consequences*, 4, 413-432.
- Fabrigar, L. R., Petty, R. E., Smith, S. M., & Crites, S. L. Jr. (2006). Understanding Knowledge Effects on Attitude-Behaviour Consistency: The Role of Relevance, Complexity, and Amount of Knowledge. *Journal of Personality and Social Psychology*, 90(4), 567-577.
- Flynn, L. R., & Goldsmith, R. E. (1999). A Short, Reliable Measure of Subjective Knowledge. *Journal of Business Research*, 46, 57-66.
- Gooding, A. E. (1975). Quantification of Investors' Perceptions of Common Stocks: Risk and Return Dimensions. *Journal of Finance*, 30, 1301-1316.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, SAGE Publications Inc, USA.
- Han, M. C. (2019). Social Media Commerce: Next Frontier in Online Shopping Focuses On Chinese, Consumers. *Global Business & Finance Review*, 24(1), 80-93.
- Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Fed. Res. Bull.*, 89, 309.
- Hoffman, A. O. I., Post, T., & Pennings, J. M. E. (2013). Individual investor perceptions and behavior during the financial crisis. *Journal of Banking and Finance*, 27, 60-74.
- Hong, H., Kubik, J., & Stein, J. (2004). Social Interaction and Stock Market Participation. *Journal of Finance*, 59, 137-163.
- Jariah, M., Husniyah, A. R., Laily, P., & Britt, S. (2004). Financial behavior and problems among university students: Need for financial education. *Journal of Personal Finance*, 3(1), 82-96.
- Jorgensen, B. L., & Salva, J. (2010). Financial Literacy of Young Adults: The Importance of Parental Socialization. *Family Relations*, 59, 465-478.
- Ki, E. J., & Hon, L. C. (2012). Causal linkages among relationship quality perception, attitude, and behaviour intention in membership organization. *Corporate Communications: An International Journal*, 17(2), 187-209.
- Lam, T., & Hsu, C. H. C. (2006). Predicting behavioral intention of choosing a travel destination. *Tourism Management*, 27, 589-599.
- Lee, M. C. (2009). Predicting and explaining the adoption of online trading: An empirical study in Taiwan. *Decision Support Systems*, 47, 133-142.
- Levy D. S., & Lee, C. K. C. (2004). The influence of family members on housing purchase decisions. *Journal of Property Investment & Finance*, 22(4), 320-338.
- Lim, T. S., Ahmad Baharul Ulum, Z. K., & Hamidi, M. (2014). Demographical and Geographical Analysis of Financial Literacy. *Proceeding of the 2nd International Conference on Business and Economics*, Padang, Indonesia.
- Lim, T. S., Mail, R., Abd Karim, M. R., Ahmad Baharul Ulum, Z. K., Miffli, M., & Lajuni, N. (2017). Pretesting and Piloting the Research Instrument to Examine the Central Roles of Risk Perception and Attitude towards Financial Investment Behavioural Intention among Malaysians. *Journal of the Asian Academy of Applied Business*, 4, 97-108.
- Lim, T. S., Mail, R., Abd Karim, M. R., Ulum, Z. K. A. B., Jaidi, J., & Noordin, R. (2018). A serial mediation model of financial knowledge on the intention to invest: The central role of risk perception and attitude. *Journal of Behavioral and Experimental Finance*, 20, 74-79.
- Litterer, J. A. (1965). *The analysis of organization*, New York: Wiley.

- Loewenstein, G. F. (1999). Experimental Economics from the Vantage Point of Behavioural Economics. *The Economics Journal*, 109, 25-34.
- March, J. G., & Shapira, Z. (1987). Managerial perspectives on risk and risk taking. *Management Science*, 33(11), 1404-1418.
- McGregor, D. G., Slovic, P., Dreman, D., & Berry, M. (2000). Imagery, Affect, and Financial Judgment. *Journal of Psychology and Financial Markets*, 1(2), 104-110.
- Mischel, W. (1973). Toward a cognitive social learning reconceptualization of personality. *Psychological Review*, 80, 252-283.
- Nofsinger, J. R. (2005). Social Mood and Financial Economics. *The Journal of Behavioural Finance*, 6(3), 144-60.
- Nosic, A., & Weber, M. (2010). How risky do I invest? The role of risk attitudes, risk perception and overconfidence. *Decision Analysis*, 7, 282-301.
- Olsen, R. A. (1997). Investment Risk: The Expert's Perspective. *Financial Analysts Journal*, March/April Issue, 62-66.
- Osman, Z., Lim, T. S., & Justine, J. (2008). Financial Literacy: How Do University Students Fare?. *Proceedings of International Borneo Business Conference*, 15-17. December 2008, Kota Kinabalu, Malaysia.
- Perry, V. G., & Morris, M. D. (2005). Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior. *Journal of Consumer Affairs*, 39(2), 299-313.
- Pew Research Center (PRC). (2016). *Smartphone Ownership and Internet Usage Continues to Climb in Emerging Economies*. (<http://www.pewglobal.org/2016/02/22/smartphone-ownership-and-internet-usage-continues-to-climb-in-emerging-economies/>). Accessed on 19 July 2016.
- Phung, T., & Mai, K. (2017). Personality Traits, Perceived Risk, Uncertainty, and Investment Performance in Vietnam. *Global Business & Finance Review*, 22(1), 67-79.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531-544.
- Poterba, J. M. (2001). Demographic structure and asset returns. *Review of Economics and Statistics*, 83(4), 565-584.
- Prechter, R. R. (1999). *The Wave Principle of Human Social Behavior and the New Science of Sociodynamics*, New Classics Library, Gainesville, GA.
- Raju, P. S., Lonial, S. C., & Mangold, W. G. (1995). Differential Effects of Subjective Knowledge, Objective Knowledge, and Usage Experience on Decision-making: An Exploratory Investigation. *Journal of Consumer Psychology*, 4, 153-180.
- 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, 1222-1230.
- Ricciardi, V. (2004). A Risk Perception Primer: A Narrative Research Review of the Risk Perception Literature in Behavioral Accounting and Behavioral Finance. *Working Paper, Social Science Research Network*. (Available at <http://dx.doi.org/10.2139/ssrn.566802>)
- Ricciardi, V. (2008). Chapter 10: The Psychology of Risk: The Behavioral Finance Perspective. In Fabozzi, F. J.(Ed.). *Handbook of Finance: Volume 2: Investment Management and Financial Management* (pp. 85-111). New Jersey, John Wiley & Sons.
- Ricciardi, V., & Rice, D. (2014). Chapter 18: Risk Perception and Risk Tolerance. In Baker, H. K. & Ricciardi, V.(ed.). *The Psychology of Financial Planning and Investing* (pp. 327-345). New Jersey, John Wiley & Sons.
- Ricciardi, V., & Simon, H. K. (2000). What is behavioral finance?. *Business, Education & Technology Journal*, 2(2), 1-9.
- Robb, C. A., & Woodyard, A. (2011). Financial knowledge and best practice behavior. *Journal of Financial Counseling and Planning*, 22(1).
- Sabri, M. F., MacDonald, M., Hira, T. K., & Masud, J. (2010). Childhood consumer experience and the financial literacy of college students in Malaysia. *Family and Consumer Sciences Research Journal*, 38(4), 455-467.
- Sahi, S. K., Arora, A. P., & Dhameja, N. (2013). An exploratory inquiry into the psychological biases in financial investment behavior. *Journal of Behavioral Finance*, 14(2), 94-103.
- Schank, R. C., & Abelson, R. P. (1977). *Scripts, plans, goals, and understanding*. Hillsdale, NJ: Erlbaum.
- Shanmugham, R., & Ramya, K. (2012). Impact of Social Factors on Individual Investors' Trading Behaviour. *Procedia Economics and Finance*, 2, 237-246.
- Shiller, R. J. (1995). Conversation, Information, and Herd Behavior. *American Economic Review: Papers and Proceedings*, May.
- Shive, S. (2010). An Epidemic Model of Investor Behaviour. *Journal of Financial and Quantitative Analysis*, 45(1), 169-198.
- Simon, H. A. (1955). A behavioral model of rational choice. *The quarterly journal of economics*, 69(1), 99-118.
- Sitkin, S. B., & Pablo, A. I. (1992). Reconceptualizing The Determinants of Risk Behavior. *Academy of Management Journal*, 17(1), 9-38.
- Sitkin, S. B., & Weingart, L. R. (1995). Determinants of Risky Decision-Making Behavior: A Test of the Mediating Role of Risk Perceptions and Propensity. *Academy of Management Journal*, 38(6), 1573-1592.
- The Star. (2016). *Getting the younger generation to invest more instead of spending*.
- Trachtman, R. (1999). The money taboo: Its effects in everyday life and in the practice of psychotherapy. *Clinical Social Work Journal*, 27, 275-288.
- Ulleberg, P., & Rundmo, T. (2003). Personality, attitudes and risk perception as predictors of risky driving behaviour

- among young drivers. *Safety Science*, 43, 427-443.
- van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, 101(2), 449-472.
- Vlaev, I., Chater, N., & Stewart, N. (2009). Dimensionality of Risk Perception: Factors Affecting Consumer Understanding and Evaluation of Financial Risk. *Journal of Behavioral Finance*, 10(3), 158-181.
- Wang, A. (2009). Interplay of Investors' Financial Knowledge and Risk Taking. *Journal of Behavioural Finance*, 10(4), 204-213.
- Weber, E. U., Blais, A. E., & Betz, N. E. (2002). A Domain-specific Risk-attitude Scale: Measuring Risk Perceptions and Risk Behaviors. *Journal of Behavioral Decision Making*, 15, 263-290.
- Wildavsky, A., & Dake, K. (1990). Theories of Risk Perception: Who Fears What and Why?. *Daedalus*, 119(4), 41-60.
- Zmyslinski-Seelig, A. N. (2016). "To Each Their Own": Comparing Satisfaction, Money Management, and Financial Communication Across Couple Types.