



The moderating effect of subjective financial literacy on the relationship between coping strategies and financial risk tolerance

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Abstract

In the study, the effects of conscious (coping strategies), emotional (emotional intelligence) and cognitive (financial literacy) factors on the level of financial risk tolerance were investigated. Financial literacy was measured both objectively and subjectively, and the impact of both actual knowledge and perceived knowledge was examined. Four independent variables (coping strategies, emotional intelligence, objective financial literacy and subjective financial literacy) and one dependent variable (financial risk tolerance) were examined. 1692 subjects were reached using online survey method. Confirmatory factor analysis, correlation and regression analyses were performed on the collected data, and also the moderating effect of subjective financial literacy was also examined. As a result of the analyses, it was found that coping strategies decrease financial risk tolerance. The moderating effect of subjective financial literacy also was proven in this relationship. In addition, while there was moderate relationship between subjective financial literacy and objective financial literacy, emotional intelligence and objective financial literacy were also reported to be predictors of subjective financial literacy. While a negative and significant relationship was detected between emotional intelligence and financial risk tolerance, a positive and significant relationship was found between objective and subjective financial literacy and financial risk tolerance.

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1. Introduction

The two main variables of the decision process are pleasure seeking and pain aversion (Moccia, Mazza, Nicola, & Janiri, 2018). Pleasure is the desire for something specific (Berridge & Kringelbach, 2008) and leads to a request for rewards (Fukunaga, Brown, & Bogg, 2012; Loonen & Ivanova, 2016). Pain aversion, on the other hand, is evaluated together with loss aversion in the financial context and is accepted as the behavior of individuals to avoid the pain of financial loss. While pleasure-seeking people look to the future with hope and think that positive results will happen to them, pain-aversion people wait for negative results to occur and make choices that they will not experience loss. For this reason, the evaluations related to the decision are related to how much pleasure the situation subject to the decision represents or what kind of emotional state it creates (Diaye & Lapidus, 2012).

Therefore, the expectations of individuals are not independent of their perceptions and evaluations (Selim Aren, Hamamci, & Özcan, 2021). Whether individuals pursue pleasure seeking or avoid loss depends on their emotions and subjective evaluations of future outcomes (Aaker & Lee, 2001). If individuals have a tendency to pleasure seeking, they perceive the risk as low (Clark & Dagher, 2014) whereas if they tend to have loss aversion, they perceive the risk as high. For this reason, the risk perception of an individual is important, and impulsivity, behavioral biases, preferences or other circumstances affect financial decision-making (Huston, 2010).

Financial risk tolerance is the maximum amount of uncertainty that an individual is willing to accept when making financial decisions (Ferreira, 2019; Grable, 2000; Kannadhasan, 2015; Mishra & Mishra, 2016; Pinjisakikool, 2018; Sulaiman, 2012; Sutejo, Pranata, & Mahadwartha, 2018). It is often associated with a willingness to take risks (Ferreira & Dickason-Koekemoer, 2020; Fisher & Yao, 2017; Kannadhasan, 2015; Marinelli, Mazzoli, & Palmucci, 2017; Pinjisakikool, 2018). Risk is a deviation from the expected (Aren & Hamamci, 2021b). Those who make a choice considering the positive side of the deviation show risk-taking behavior, and those who choose the negative side of the deviation show risk avoidance behavior (Aren & Hamamci, 2021b; Ferreira, 2019).

Individuals make various financial decisions in their daily lives. To make a decision, it is necessary to have knowledge (Raut, 2020). Individuals' belief that they can make the right financial decision affects their perceptions of risk (Nejad & Javid, 2018). The cost of a floating-rate loan may be lower or higher than that of a fixed-rate loan. The financial instrument, whose return is not fixed, can provide both negative and positive high returns. The core of these decisions is risk tolerance and risk tendency. There is a complex relationship between anxiety, stress and financial tolerance. Anxiety reduces risk tolerance (Ferreira, 2019). While low financial tolerance causes a focus on financial security, it increases anxiety and stress (Ferreira, 2019; Sutejo et al., 2018).

Individuals benefit from various coping strategies to cope with the increasing stress. Coping strategies are the behavioral and psychological efforts that individuals use to tolerate stressful situations (Noorbakhsh, Besharat, & Zarei, 2010). It is necessary to have knowledge to make decisions in risky situations that cause stress. Both emotional intelligence (Kostić-Bobanović, 2020) and experience (Lusardi & Mitchell, 2011) increases financial knowledge. Emotional intelligence is considered the ability to perceive, facilitate, understand and regulate the emotions of one and others (Carminati, 2021). Emotional intelligence is important for stress control (Noorbakhsh et al., 2010). In a recent study, Jung et al. (2019) examined regions that are active in the brain under stress and neurologically found a negative relationship between stress and emotional intelligence. Therefore, individuals with higher emotional intelligence levels may perceive stress to be lower and tolerate more stress. In support of this, Aydemir and Aren (2017) also showed that individuals with high emotional intelligence levels have high-risk investment intentions. According to these findings, individuals with high emotional intelligence may perceive the risk as lower in financial situations and tolerate financial risk more.

Another important variable when the decision issue is financial investments is financial literacy. Financial literacy is defined as the knowledge and ability to make a conscious and effective financial decision (Nejad & Javid, 2018) and it is accepted that has a significant impact on financial decisions (Fernandes, Lynch Jr, & Netemeyer, 2014; Jappelli & Padula, 2013). It is also effective in reducing and coping with financial stress. Various studies emphasize that financial literacy reduces financial stress (Lind et al., 2020; West & Worthington, 2018).

In this context, it is accepted that individuals with high financial literacy can better evaluate financial risk (Raut, 2020). Lusardi and Mitchell (2014) stated that financial literacy cannot be explained by cognitive factors alone. Because, on the one hand, financial literacy is associated with future orientation, financial satisfaction and anxiety (Kadoya & Khan, 2020) and on the other hand, experience, skills and individual capability (Bay, Catasús, & Johed, 2015).

Financial literacy is divided into two categories in the literature: objective and subjective financial literacy (Nejad & Javid, 2018). While subjective financial literacy is an individual's self-evaluation of their financial knowledge and expertise, objective financial literacy is based on the number of correct answers individuals give to questions about financial concepts and is actual knowledge (Bellofatto, D'Hondt, & De Winne, 2018). Learning is associated with cognitive and emotional stability (Kadoya & Khan, 2020). Subjective financial literacy and objective financial literacy are determinants of financial behavior (Goyal & Kumar, 2021) and both have the ability to eliminate financial anxiety (Lind et al., 2020). On the other hand, Mende and Van Doorn (2015) point out that objective and subjective financial literacy includes separate features; therefore it would be useful to evaluate them separately.

In this context, the effect of coping strategies on financial risk tolerance level, which is the result of risky situation perceptions and risk preferences that cause stress in individuals, was examined, and the moderating effects of emotional intelligence, objective and subjective financial literacy in this relationship were separately evaluated. With this feature, this research is unique to the literature. We think that it will be important for investors and advisors serving them to see which of the different but interrelated variables such as emotional intelligence and financial literacy have a greater moderating effect on the relationship between coping strategies and financial risk tolerance. In particular, we also attach importance to the fact that objective and subjective financial literacy are handled separately in the same study. While one points to the actual knowledge of the individual, the other is the perception regarding the knowledge. Actual knowledge is important, but at what level the individuals feel themselves is just as important. We think that it is extremely important to examine the effects of conscious (coping strategies), emotional (emotional intelligence) and cognitive (financial literacy) elements on the level of financial risk tolerance, and to analyze the interactions of each one separately and together in terms of individuals and finance professionals.

In this framework, literature review in the second part of the study, methodology in the third part and discussion in the last part of the study.

2. Literature Review

Coping strategies can be expressed as efforts to regulate emotions, behaviors, cognitions, psychophysiology and environmental aspects used to combat real or perceived problems that cause stress (Belanger, Lewis, Kasper, Smith, & Harrington, 2007; Cheung, Teo, & Hue, 2017; Enns, Eldridge, Montgomery, & Gonzalez, 2018; Kovacevic, Pozgain, Filakovic, & Grujicic, 2018; Moradi, Pishva, Ehsan, & Hadadi, 2011; Morales-Rodríguez & Pérez-Mármol, 2019; Panno, 2016; Pathak & Goltz, 2021). As can be understood from this definition, the situation that causes stress can be real or it can be created in the subjective perception of the individual. While coping strategies are conscious, they are not purely cognitive. It also contains emotional effort and features. For this reason, it is accepted to have two main functions: regulating the emotions caused by stress and changing the person-environment relationship that causes distress. (Belanger et al., 2007). As individuals resort to coping strategies to cope with stress, they tend to risk avoidance and have low risk tolerance. Every stressful situation requires a different coping strategy (Morales-Rodríguez & Pérez-Mármol, 2019). For this reason, individuals use both problem-focus and emotional-focus coping strategies (Pathak & Goltz, 2021). An individual's perception regarding the situation affects the effectiveness of the preferred strategy (Morales-Rodríguez & Pérez-Mármol, 2019).

Pathak and Goltz (2021) state that examining coping processes based on emotions and emotional competence will provide useful results. Emotions are an emotional continuum that includes anxiety at the negative pole and emotional intelligence at the positive pole (Morales-Rodríguez & Pérez-Mármol, 2019). Emotional intelligence is an individual's ability to understand their own emotions and the emotions of others and direct them to a goal (Enns et al., 2018; Kovacevic et al., 2018; Moradi et al., 2011; Pathak & Goltz, 2021; Thomas, Cassady, & Heller, 2017). It consists of mental skills, abilities and capacities that process and benefit from emotions (Thomas et al., 2017). It has three features: appraisal and expression of emotion, regulation of emotion, and utilization of emotions in solving problems (Belanger et al., 2007). In this context, it is also possible to divide it into two as trait emotional intelligence and ability emotional intelligence. While trait emotional intelligence is individuals' perception of evaluating, regulating and expressing emotional states, ability emotional intelligence is a cognitive ability related to identifying, understanding and managing emotions (Thomas et al., 2017).

When evaluated in general, emotional intelligence has both cognitive ability and perception dimensions. However, there is no consensus on whether these competencies include cognitive or non-cognitive skills, whether they are innate or learned (Pathak & Goltz, 2021).

While emotional intelligence influences the decisions and responses of the individual throughout his/her life in interaction with environmental and cognitive factors (Thomas et al., 2017), it also is accepted to have more impact on success than cognitive abilities (Belanger et al., 2007). High emotional intelligence provides a perception of risk (Morales-Rodríguez & Pérez-Mármol, 2019) and stress (Chandra, 2021; Enns et al., 2018; Moradi et al., 2011) as lower. Many researchers have emphasized the existence of a positive relationship between emotional intelligence and coping strategies (Belanger et al., 2007; Chandra, 2021; Enns et al., 2018; Kovacevic et al., 2018; Moradi et al., 2011; Pathak & Goltz, 2021; Thomas et al., 2017). Also, Pathak and Goltz (2021) found that emotional intelligence mediated the effect of coping strategies on behavior.

Individuals with high emotional intelligence view stressful events as a challenge rather than a threat (Buccioli, Guerrero, & Papadovasilaki, 2020) and take more risks because they are more confident in coping with the problem (Cheung et al., 2017; Panno, Anna Donati, Chiesi, & Primi, 2015; Panno., 2016). This also applies to financial decisions, and Buccioli et al. (2020) reported a positive relationship between financial risk-taking and emotional intelligence. Aydemir and Aren (2017) found that both non-financial risk-taking and risky investment intention and emotional intelligence are positively related in a single study (Aydemir & Aren, 2017). In addition, Panno (2016) presented neurological evidence for this relationship.

As stated above, financial risk tolerance is the amount of financial uncertainty that individuals are willing to accept, and its high level is associated with risk taking (Ferreira, 2019; Ferreira & Dickason-Koekemoer, 2020; Fisher & Yao, 2017; Grable, 2000; Kannadhasan, 2015; Marinelli et al., 2017; Mishra & Mishra, 2016; Pinjisakikool, 2018; Sulaiman, 2012; Sutejo et al., 2018). The risk tendency is cognitive (Sitkin & Pablo, 1992) and risk perception is emotional (Li et al., 2020). Financial risk tolerance is affected by an individual's risk perception and risk tendency (Ferreira & Dickason-Koekemoer, 2020) and it contains emotional, cognitive and psychological elements (Ferreira, 2019; Lucarelli, Uberti, & Brighetti, 2015; Nigam, Srivastava, & Banwet, 2018).

By evaluating future behavior as safer or riskier, decision-makers simulate future emotional reactions (Panno., 2016) and exhibit different behaviors under different conditions (Ferreira, 2019). The degree of risk-taking is domain-specific (Lucarelli et al., 2015) and financial risk tolerance tends to be subjective rather than objective (Kannadhasan, 2015).

In this context, financial risk tolerance is affected by psychological factors (Ferreira, 2019) as well as financial knowledge (Grable, 2000; Rabbani, Heo, & Lee, 2022) and financial literacy (Bayar, Sezgin, Öztürk, &

Şaşmaz, 2020; Fisher & Yao, 2017) and positively related to emotional intelligence (Rosales-Pérez, Fernández-Gámez, Torroba-Díaz, & Molina-Gómez, 2021). For this reason, emotional intelligence interferes with the rational preferences of individuals and reduces sensitivity to rational factors (Panno et al., 2015). In addition, emotional intelligence is important in understanding individuals' financial risk attitudes and is as effective as cognitive skills (Buccioli et al., 2020).

Under these evaluations, the first two hypotheses of the study were formed as follows.

H1: There is a negative relationship between coping strategies and financial risk tolerance.

H2: Emotional intelligence has a moderating effect on the relationship between coping strategies and financial risk tolerance.

Financial literacy is the knowledge and skill of making conscious and effective financial decisions (Nejad & Javid, 2018). It is generally associated with better financial decision making (Fernandes et al., 2014; Jappelli & Padula, 2013; Raut, 2020). Financial literacy is not merely financial knowledge. Knowledge also needs to be supported by financial willingness (desire to use knowledge), financial ability (knowledge and willingness combined with personality traits), financial inclusion (access to financial instruments and markets) and financial confidence (confidence that you can use all of these) (Charlotta Bay, Catasús, & Johed, 2014; Bellofatto et al., 2018; Gerrans & Heaney, 2019; Kadoya & Khan, 2020).

According to Jappelli and Padula (2013) financial literacy is a choice and is associated with mathematical skills developed since the early stages of life. For this reason, it develops with experience (Lusardi & Mitchell, 2011); (Bay et al., 2015) and social interaction (Kadoya & Khan, 2020) and cannot be evaluated only by cognitive factors (Lusardi & Mitchell, 2014). In addition to cognitive abilities, emotional stability (Kadoya & Khan, 2020) future anxiety, confidence (Kadoya & Khan, 2020) anxiety (Kadoya & Khan, 2020; Lind et al., 2020) stress (Mende & Van Doorn, 2015) and satisfaction (Kadoya & Khan, 2020; Xiao, Chen, & Chen, 2014) are also important.

Financial literacy can be divided into objective and subjective. While objective financial literacy expresses what a person actually knows, subjective financial literacy is the belief and perception of one's knowledge (Nejad & Javid, 2018; Xiao, Chen, & Sun, 2015). Although some researchers have evaluated these two concepts to be highly correlated, others state that the relationship is not high (Bellofatto et al., 2018). Although both are effective in financial behavior (Xiao et al., 2015; Xiao & O'Neill, 2016) they have different characteristics (Xiao... & Porto, 2017) and different evaluations (Nejad & Javid, 2018) are required. For example, while participation in the stock market increases as both objective and subjective financial literacy increase, the impact of the rise in objective financial literacy is more pronounced. On the other hand, financial education (Xiao & Porto, 2017) and financial stress (Mende & Van Doorn, 2015) are more effective in subjective financial literacy.

In summary, individuals can be financially literate when they have the knowledge, understanding and skills regarding their personal financial situations, but they need to reflect on their behavior (Goyal & Kumar, 2021). Financial literacy refers to knowing and acting. It contains both cognitive (Fernandes et al., 2014) and affective features such as perception (Kadoya & Khan, 2020; Raut, 2020). Knowing is a cognitive feature that is acquired from the social environment (behaviors of others, family, school, etc.) and experience (learning from personal mistakes) (Kadoya & Khan, 2020). Perception, on the other hand, is related to a person's belief in risk, uncertainty and making the right decision (Raut, 2020). This belief affects their decisions (Nejad & Javid, 2018).

The relationship between financial literacy and risk-taking is quite complex (Banner & Neubert, 2016; Noviarini, Coleman, Roberts, & Whiting, 2021). Past experience (Baars, Cordes, & Mohrschladt, 2020; Czerwonka, 2019) financial literacy (Lusardi & Mitchell, 2007; Salem, 2019) personality traits (Breuer, Riesener, & Salzmann, 2014) and many more factors influence risk-taking/risk-avoidance choices. For this reason, while some researchers found a positive relationship between financial literacy and risk-taking (Aren & Canikli, 2018; Hermansson & Jonsson, 2021; Korkmaz, Yin, Yue, & Zhou, 2021; Nejad & Javid, 2018; Niazi & Malik, 2020; Nicolini, Gärling, Carlander, & Hauff, 2017) some researchers reported negative relationships (Aren & Zengin, 2016; Mudzingiri, Muteba Mwamba, & Keyser, 2018). Even, some researchers have stated that there is no relationship (Anindita & Ulpah, 2020; Cox, Brounen, & Neuteboom, 2015; Selim & Aydemir, 2014). While Aren and Akgunes (2019) could not find a relationship between objective financial literacy and risk-taking, they obtained findings regarding the existence of a positive relationship between subjective financial literacy and risk-taking.

Financial difficulties are a major source of stress. Individuals use coping strategies to cope with financial difficulties, and their preferred coping strategies differ according to their financial literacy levels (Schicks, 2014). In this context, financial literacy and coping strategies are closely related. Faulkner, Murphy, and Scott (2019) emphasize the importance of financial literacy in understanding the coping strategies applied by rural households regarding financial difficulties in Ireland during the 2007/2008 financial crisis. Similarly, Ferrer, Lee, and Khan (2020) also refer to the struggles of older immigrants in Canada to cope with the financial difficulties they are exposed to and the need for financial literacy in their preferences. Schicks (2014) associates micro borrowers' wrong financial decisions and wrong coping strategies with low financial literacy in Ghana. Hong and Fraser (2021) conducted a study on 20 retired athletes from six different countries (Japan, Mexico,

Portugal, Singapore, South Korea, and the UK) and pointed out the relationship between the coping strategies adopted by the athletes to overcome their financial difficulties and their financial literacy levels. They refer to the financial difficulties that athletes face during and after the transition from active sports life to retirement, and the close relationship between the wrong coping strategies regarding these difficulties and financial literacy (Hong & Fraser, 2021).

Under these evaluations, the last two hypotheses of the study were formed as follows.

H3: Objective financial literacy has a moderating effect on the relationship between coping strategies and financial risk tolerance.

H4: Subjective financial literacy has a moderating effect on the relationship between coping strategies and financial risk tolerance.

3. Methodology

3.1. Data

Data of this study were collected between 03–21 May 2021 on the basis of convenience sampling and volunteering by online survey method. The online questionnaire was filled out completely by 1692 participants. We would like to thank our students for sharing the questionnaire link on their social media networks. Of the participants, 874 (51.7 %) were male and 818 (48.3 %) were female. 946 (55.9 %) participants aged 20–30, 477 (28.2 %) aged 31–40, 174 (10.3 %) aged 41–50, and 95 (5.6 %) is in the +51 age group. 31 (1.9 %) of our participants had primary school, 179 (10.6 %) high school, 1135 (67.1 %) undergraduate and 347 (20.5 %) graduate diplomas. Finally, 675 (39.9%) participants were married and 1017 (60.1 %) were single. Since our undergraduate students delivered the questionnaire to the participants via their own social networks, data that are young, highly educated and equal in terms of gender and marital status was reached as expected.

3.2. Variables

The study included four independent variables (coping strategies, emotional intelligence, objective financial literacy and subjective financial literacy) and one dependent variable (financial risk tolerance). The scale information of the variables is presented in Table 1.

Table 1. Scales.

Variable	Item	Scale
Coping strategies	36	Folkman, Lazarus, Dunkel-Schetter, DeLongis, and Gruen (1986)
Emotional intelligence	16	Aydemir and Aren (2017)
Objective financial literacy	11	Van Rooij, Lusardi, and Alessie (2011)
Subjective financial literacy	1	Aren and Canikli (2018)
Financial risk tolerance	5	Grable and Joo (2004)

Subjective financial literacy is an individual's assessment of his/her own knowledge level. For this reason, by following (Aren & Canikli, 2018) it was measured with a single question in the form of "What is your level of knowledge about financial matters? (1 lowest; 5 highest)" For objective financial literacy, the scale developed by Van Rooij et al. (2011) was preferred. Van Rooij et al. (2011) article received 396 citations in Web of Science as of September 2021. Folkman et al. (1986) coping strategies scale has 2220 citations in Web of Science on the same date. The scale of emotional intelligence used by Aydemir and Aren (2017) on the other hand, took 16 citations according to the same date and database information. In fact, the scale used by the authors is a shortened and modified version of the scale used by Schutte et al. (1998) in their work. This publication also has 1421 citations. The last scale used in this study is the financial risk tolerance scale and this scale belongs to Grable and Joo (2004). This work was published in the Journal of Financial Counseling and Planning and was not indexed by the Web of Science. According to Google academic data, it has received 255 cites.

3.3. Research Model

The model of this study is presented in Figure 1.

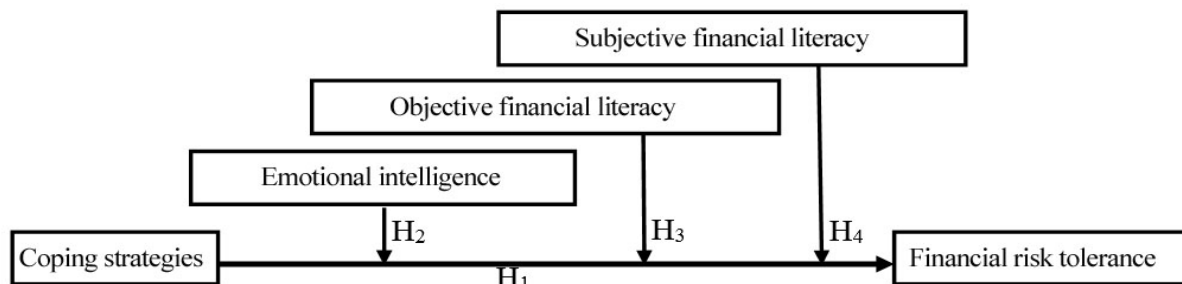


Figure 1. Default model.

The default model is based on hypotheses established with the support of literature. The H1 hypothesis is imperative for this study. The study predicts that the coping strategies used will decrease the level of financial risk tolerance and individuals will tend to risk avoidance. It was predicted that emotional intelligence, objective financial literacy and subjective financial literacy might have moderating effects on this relationship, respectively. To investigate these effects, the model was tested separately within the framework of hypotheses H2, H3, and H4. The moderating effect test was performed following the steps of Baron and Kenny (1986) as explained in detail in the analyses section.

4. Analyses

In this study, firstly, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity values were examined to evaluate the suitability of the data for factor analysis. KMO value 0.894 and Bartlett's Test of Sphericity value 28386.848 were calculated and found significant at 0.000 error level. Then, confirmatory factor analysis was performed for the relevant variables, as presented in Table 2.

The scale used to measure coping strategies has six sub-dimensions: confrontive coping, accepting-responsibility, distancing, escape-avoidance, Self-controlling, planful-problem-solving. The emotional intelligence scale, on the other hand, has four sub-dimensions (perceiving emotions, managing one's own emotions, managing others' emotions, and using emotions). Since coping strategies and emotional intelligence variables also have sub-dimensions, a two-step approach confirmatory factor analysis was applied to these variables, as Aydemir and Aren (2017) did. Since financial risk tolerance is one-dimensional, one-step confirmatory factor analyses were performed for this variable. The analysis results are presented in Table 2. Objective financial literacy was evaluated by the number of correct answers to 11 questions. Subjective financial literacy was evaluated using a single question. Therefore, there is no need for a factor analysis for objective and subjective financial literacy.

Table 2. Confirmatory analyses.

Variable	CMIN/DF	RMSEA	GFI	AGFI	CFI	TLI	NFI	RFI
Coping strategies	5.316	0.051	0.934	0.919	0.889	0.874	0.867	0.849
Emotional intelligence	4.145	0.043	0.973	0.962	0.960	0.950	0.948	0.935
Financial risk tolerance	3.096	0.035	0.997	0.989	0.996	0.990	0.994	0.985

The coping strategies had 36 items. In the two-step confirmatory factor analysis, nine items (3, 4, 6, 8, 16, 17, 19, 26, and 27) were excluded because they had low factor loads. Emotional intelligence has 16 items. In the two-step confirmatory factor analysis for this variable, only one item (13) was removed because it had a low factor load. Financial risk tolerance has five items, and in the one-step confirmatory factor analysis, the factor loads of all items were high and no items were removed.

When evaluated according to threshold values indicated by Selim Aren et al. (2021); Aren and Hamamci (2022) and Sadia, Bekhor, and Polus (2018) it is seen that all goodness-of-fit indexes are at a very good level and acceptable. After confirmatory factor analyses, correlation analysis was performed to determine the relationship between the variables and the results are presented in Table 3.

Table 3. Correlations analysis.

Variables	Coping	EI	OFL	SFL	FRT
Coping	1	0.332***	-0.004	0.176**	-0.188***
EI	0.332***	1	0.092***	0.126***	-0.042*
OFL	-0.004	0.092***	1	0.443***	0.422***
SFL	0.176***	0.126***	0.443***	1	0.295***
FRT	-0.188***	-0.042*	0.422***	0.295***	1

Note: ***<0,001; **<0,01; *<0,1.

Coping: Coping strategies; EI: Emotional intelligence; OFL: Objective financial literacy; SFL: Subjective financial literacy; FRT: Financial risk tolerance.

As can be seen from Table 3, all independent variables (coping strategies, emotional intelligence, objective financial literacy and subjective financial literacy) have a significant relationship with the dependent variable, financial risk tolerance. As coping strategies are used and emotional intelligence level rises, financial risk tolerance decreases, that is, individuals tend to avoid risk. As objective and subjective financial literacy increases, financial risk tolerance increases and individuals tend to show risk-taking. In addition, there was no significant relationship between coping strategies and objective financial literacy. In contrast, there was a positive correlation between subjective financial literacy.

In the model shown in Figure 1, first, a positive relationship (H1) is predicted between coping strategies and financial risk tolerance, and then the moderation effect of emotional intelligence (H2), objective financial literacy (H3) and subjective financial literacy (H4) are separately predicted in this relationship. Baron and Kenny (1986) stated that three separate regression models should be used to test the moderating effect. First, the relationship between the independent variable (coping strategies) and the dependent variable (financial risk tolerance) should be investigated.

The results of the regression analysis should be significant. Second, the moderating variable (emotional intelligence/objective financial literacy/subjective financial literacy) was added to the regression analysis as an independent variable. The model and both variables need to be significant. Finally, the third variable (coping strategies X emotional intelligence/ coping strategies X objective financial literacy/ coping strategies X subjective financial literacy) created by the multiplying the independent variable (coping strategies) and moderating variable (emotional intelligence/objective financial literacy/subjective financial literacy) was also added to the model and the regression analysis was repeated.

As a result, it is expected that the entire model and the third variable (coping strategies X emotional intelligence/ coping strategies X objective financial literacy/ coping strategies X subjective financial literacy) are significant, but it is expected that the independent variable (coping strategies) is insignificant. In this case, the existence of a moderating effect was proven. The results of the analyses conducted within this framework are presented in Table 4.

Table 4. Moderating effects.

Model	Step	Independent variables	Standardized beta	Adjusted R ²
1	1	Coping strategies	-0.188***	0.035***
	2	Coping strategies	-0.195***	0.035***
		Emotional intelligence	0.023	
	3	Coping strategies	0.106	0.036***
		Emotional intelligence	0.341*	
		Coping strategies X Emotional intelligence	-0.507*	
2	1	Coping strategies	-0.188***	0.035***
	2	Coping strategies	-0.186***	0.212***
		Objective financial literacy	0.422***	
	3	Coping strategies	-0.199***	0.212***
		Objective financial literacy	0.348*	
		Coping strategies X Objective financial literacy	0.076	
3	1	Coping strategies	-0.188***	0.035***
	2	Coping strategies	-0.247***	0.145***
		Subjective financial literacy	0.339***	
	3	Coping strategies	0.051	0.157***
		Subjective financial literacy	1.209***	
		Coping strategies X Subjective financial literacy	-0.975***	

Note: ***<0,001; *<0,1.

In Step 1 of Model 1, which was carried out to test the moderating effect of emotional intelligence, the relationship between coping strategies and financial risk tolerance was significant and the first step was confirmed according to Baron and Kenny (1986) (H1 Accepted). In the second step, emotional intelligence was added to Model 1, but the effect of this variable on financial risk tolerance was found to be insignificant. For this reason, Step 3 was technically unnecessary and no findings could be obtained to confirm the moderating effect of emotional intelligence on the relationship between coping strategies and financial risk tolerance (H2 Unaccepted).

Step 1 of Model 2 is the same as that of the previous model and is significant. Objective financial literacy was added to the analysis in Step 2, and both the regression analysis and the effects of both variables on financial risk tolerance were found to be significant. For this reason, the variable “coping strategies X objective financial literacy” was added to Model 2 in Step 3. However, this variable was not significant. For this reason, no findings were obtained to confirm the moderating effect of objective financial literacy on the relationship between coping strategies and financial risk tolerance (H3 Unaccepted).

Finally, the moderating effect of subjective financial literacy was investigated using Model 3. Step 1 of Model 3 is the same as the first step of the other models and it was found to be significant. In Step 2, subjective financial literacy was added to the analysis and both the model and variables were found to be significant. In the last step, the analysis was repeated by adding the variable “coping strategies X subjective financial literacy”.

As [Baron and Kenny \(1986\)](#) stated, it was found that the “coping strategies X subjective financial literacy” variable was significant and the coping strategies variable was insignificant. For this reason, it is possible to mention the moderating effect of subjective financial literacy on the relationship between coping strategies and financial risk tolerance (H4 Accepted).

After this point, we planned to investigate whether two variables (emotional intelligence and objective financial literacy) that did not show moderating effects in research models could be predictors of subjective financial literacy. Considering the correlation analyses we reported ([Table 3](#)), it is seen that subjective financial literacy and emotional intelligence and objective financial literacy have a significant correlation. Based on this information, a regression model including emotional intelligence and objective financial literacy as independent variables and subjective financial literacy as the dependent variable was established and analyzed. The results are presented in [Table 5](#).

Table 5. Regression analysis.

Independent variables	Standardized beta	Adjusted R ²
Emotional intelligence	0.086***	0.202***
Objective financial literacy	0.435***	

Note: ***<0,001.

As can be seen from [Table 5](#), emotional intelligence and objective financial literacy are predictors of subjective financial literacy. After these findings, the final model of the study was reached and this model is presented in [Figure 2](#).

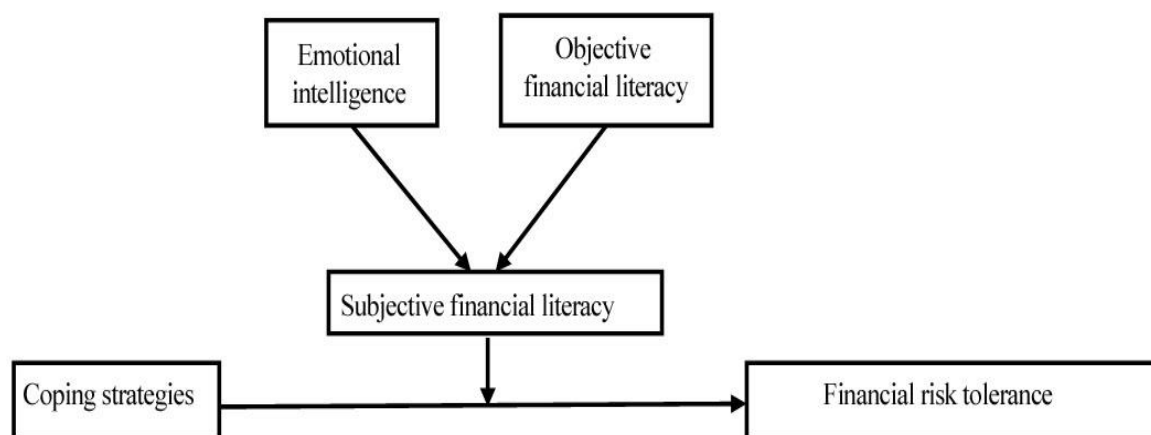


Figure 2. Final model.

As can be seen from [Figure 2](#), emotional intelligence and objective financial literacy were estimators of subjective financial literacy. In addition, subjective financial literacy had a moderating effect in the relationship between coping strategies and financial risk tolerance.

5. Discussion

Financial risk tolerance refers to the amount of uncertainty that individuals are willing to take or think they can cope with financial decision processes. Therefore, the financial decision process is a source of stress and a situation that needs to be managed. In such cases, individuals appeal to coping strategies. Coping strategies involve the use of emotional, cognitive and psychological elements to deal with a real or perceived stressful situation. From this perspective, this study investigated the relationship between individuals' use of coping strategies and financial risk tolerance. As expected, we found a negative relationship between coping strategies and financial risk tolerance. As stated above, financial risk tolerance is closely related to risk-taking/avoidance behavior. In this context, individuals who perceive or actually experience a financial situation that is a source of stress will appeal to coping strategies to deal with it; therefore, they will tend to show risk avoidance due to the anxiety they experience. This finding is also consistent with those of previous studies ([Cherewick et al., 2015](#); [Dariotis & Chen, 2022](#); [Rubio, Pujals, Vega Marcos, Aguado, & Hernández, 2014](#)). There are also studies in the literature that associate coping strategies with risk-taking/avoidance. However, the investigation of its relationship with financial risk tolerance has been the subject of limited

studies. Therefore, we believe that our study findings are important in this sense and are useful for eliminating the deficiencies in the literature.

Another feature of this study is to investigate the effects of conscious (coping strategies), emotional (emotional intelligence) and cognitive (financial literacy) factors on the level of financial risk tolerance. A negative relationship was found between emotional intelligence and financial risk tolerance, and a positive and significant relationship was found between objective and subjective financial literacy and financial risk tolerance. These findings are also consistent with those of previous studies (Cheung et al., 2017; Yip, Stein, Cote, & Carney, 2020). A moderately significant relationship was found between objective and subjective financial literacy, and this finding supports (Bellofatto et al., 2018) referring to a non-strong relationship between the two types of financial literacy. The relationship that we found between objective and subjective financial literacy and financial risk tolerance show resemblance with a wide literature (Aren & Canikli, 2018; Hermansson & Jonsson, 2021; Korkmaz et al., 2021; Nejad & Javid, 2018; Niazi & Malik, 2020; Nicolini et al., 2017).

Another important finding of the study is that emotional intelligence and objective financial literacy are estimators of subjective financial literacy, and subjective financial literacy has a moderating effect on the relationship between coping strategies and financial risk tolerance. Our findings on the relationship between emotional intelligence and financial literacy support and improve the findings of Aydemir and Aren (2017) in previous years. While the authors could only report a relationship for low financial literacy, they predicted a similar relationship for high financial literacy but could not confirm it. Unlike them, we were able to confirm this by not taking financial literacy only as an objective.

In addition, the finding that subjective financial literacy has a moderating effect on the relationship between coping strategies and financial risk tolerance is noteworthy. Because this finding also supports (Faulkner et al., 2019) who emphasized the importance of financial literacy in understanding coping strategies, Kannadhasan (2015) who emphasized that financial risk tolerance is subjective, Schicks (2014) who stated that the coping strategies used will differ according to the level of financial literacy, and Hong and Fraser (2021) who pointed out the relationship between coping strategies adopted to overcome financial difficulties and financial literacy.

We think that reporting the relationship between financial risk tolerance and conscious variables such as coping strategies, emotional variables such as emotional intelligence and cognitive variables such as financial literacy are important and beneficial for academicians who will work on these issues. However, we believe that our study results are also beneficial to practitioners. Financial decisions create stress in individuals. The future contains uncertainty and when the decision subject is money, wrong decisions cause a loss of wealth. At this point, individuals who want to make a decision will prefer to reduce the stress they experience with various coping strategies. The point that should not be forgotten in terms of financial advisors is that the risk tolerance of the individual will decrease with the activation of coping strategies. Therefore, the individual will tend to avoid risk by evaluating the decision issue sufficiently or without evaluating it. This leads to not taking risks that should be taken. In addition, subjective financial literacy plays a critical role in this relationship.

Many institutions and governments sometimes organize training to increase the financial literacy levels of individuals. However, an important point that is overlooked is the level at which an individual feels financial literacy as well as the level of real financial literacy. We have shown that there is a moderate relationship between subjective financial literacy and objective financial literacy, and we also revealed that the emotional intelligence level of the person is as effective as the effect of objective knowledge on the level of perceived financial knowledge.

Therefore, we suggest that financial advisors should consider the subjective level of knowledge, which they perceive in themselves and emotional intelligence when evaluating their clients and that it would be insufficient to give advice by only considering their objective financial literacy levels. Because financial risk tolerance and risk-taking/avoidance behaviors are shaped as a result of all these variables. As a result, although our study reveals some findings that we believe to be useful, it also has some limitations as in every study. The most important limitation is to take the statements of the subjects as a basis, as in all the surveyed studies. Again, it is an important constraint to measure their thoughts about a hypothetical situation rather than an existing situation. In this context, although it has some limitations in itself, we think that it is important to investigate similar variables in individuals in the laboratory environment, provided that sufficient monetary and hardware conditions are provided.

References

- Aaker, J. L., & Lee, A. Y. (2001). I" seek pleasures and "we" avoid pains: The role of self-regulatory goals in information processing and persuasion. *Journal of Consumer Research*, 28(1), 33-49. <https://doi.org/10.1086/321946>
- Anindita, N. L. P. S. D., & Ulpah, M. (2020). *Individual traits, risk perception, financial literacy & investment decisions*. Paper presented at the Paper presented at the 5th Padang International Conference on Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA-5).
- Aren, S., & Hamamcı, H. N. (2022). The impact of financial defence mechanisms and phantasy on risky investment intention. *Kybernetes*, 51(1), 141-164. <https://doi.org/10.1108/k-10-2020-0695>

- Aren, S., Hamamci, H. N., & Özcan, S. (2021). Moderation effect of pleasure seeking and loss aversion in the relationship between personality traits and risky investment intention. *Kybernetes: The International Journal of Systems & Cybernetics*, 50(12), 3305-3330.
- Aren, S., & Hamamci, H. N. (2021b). Risk-taking and risk aversion in the period of before and after the 2008 crisis: Evaluation with bibliometric analysis. *Journal of Economic and Administrative Sciences*, 1-16. <https://doi.org/10.1108/jeas-03-2021-0047>
- Aren, S., & Zengin, A. N. (2016). Influence of financial literacy and risk perception on choice of investment. *Procedia-Social and Behavioral Sciences*, 235, 656-663.
- Aren, S., & Akgunes, A. O. (2019). *Objective, subjective financial literacy influence on cognitive style and financial risk perception*. Paper presented at the Paper presented at the 15th International Strategic Management Conference (ISMC).
- Aren, S., & Canikli, S. (2018). *The effect of financial literacy and risk perception on investment choices of individual investors*. Paper presented at the Paper presented at the 8th International Conference On Leadership, Technology, Innovation And Business Management, The European Proceedings of Social & Behavioural Sciences EpSBS.
- Aydemir, S. D., & Aren, S. (2017). Do the effects of individual factors on financial risk-taking behavior diversify with financial literacy? *Governors*, 46(10), 1706-1734. <https://doi.org/10.1108/k-10-2016-0281>
- Baars, M., Cordes, H., & Mohrschladt, H. (2020). How negative interest rates affect the risk-taking of individual investors: Experimental evidence. *Finance Research Letters*, 32, 101179. <https://doi.org/10.1016/j.frl.2019.04.035>
- Bannier, C. E., & Neubert, M. (2016). Gender differences in financial risk taking: The role of financial literacy and risk tolerance. *Economics Letters*, 145, 130-135. <https://doi.org/10.1016/j.econlet.2016.05.033>
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Bay, C., Catasús, B., & Johed, G. (2014). Situating financial literacy. *Critical Perspectives on Accounting*, 25(1), 36-45. <https://doi.org/10.1016/j.cpa.2012.11.011>
- Bay, C., Catasús, B., & Johed, G. (2015). Situating financial literacy. *Critical Perspectives on Accounting*, 25(1), 36-45. <https://doi.org/10.1016/j.cpa.2012.11.011>
- Bayar, Y., Sezgin, H. F., Öztürk, Ö. F., & Şaşmaz, M. Ü. (2020). Financial literacy and financial risk tolerance of individual investors: Multinomial logistic regression approach. *Sage Open*, 10(3), 2158244020945717. <https://doi.org/10.1177/2158244020945717>
- Belanger, F., Lewis, T., Kasper, G. M., Smith, W. J., & Harrington, K. V. (2007). Are computing students different? An analysis of coping strategies and emotional intelligence. *IEEE Transactions on Education*, 50(3), 188-196. <https://doi.org/10.1109/te.2007.900029>
- Bellofatto, A., D'Hondt, C., & De Winne, R. (2018). Subjective financial literacy and retail investors' behavior. *Journal of Banking & Finance*, 92, 168-181. <https://doi.org/10.1016/j.jbankfin.2018.05.004>
- Berridge, K. C., & Kringelbach, M. L. (2008). Affective neuroscience of pleasure: Reward in humans and animals. *Psychopharmacology*, 199(3), 457-480. <https://doi.org/10.1007/s00213-008-1099-6>
- Breuer, W., Riesener, M., & Salzmann, A. J. (2014). Risk aversion vs. Individualism: What drives risk taking in household finance? *The European Journal of Finance*, 20(5), 446-462. <https://doi.org/10.1080/1351847x.2012.714792>
- Buccioli, A., Guerrero, F., & Papadovasilaki, D. (2020). Financial risk-taking and trait emotional intelligence. *Review of Behavioral Finance*, 13(3), 259-275. <https://doi.org/10.1108/rbf-01-2020-0013>
- Carminati, L. (2021). Emotions, emotion management and emotional intelligence in the workplace: Healthcare professionals' experience in emotionally-charged situations. *Frontiers in Sociology*, 6, 640384. <https://doi.org/10.3389/fsoc.2021.640384>
- Chandra, Y. (2021). Online education during COVID-19: Perception of academic stress and emotional intelligence coping strategies among college students. *Studies*, 10(2), 229-238. <https://doi.org/10.1108/aeds-05-2020-0097>
- Cherewick, M., Kohli, A., Remy, M. M., Murhula, C. M., Kurhorhwa, A. K. B., Mirindi, A. B., . . . Kindja, G. M. (2015). Coping among trauma-affected youth: A qualitative study. *Conflict and Health*, 9(1), 1-12. <https://doi.org/10.1186/s13031-015-0062-5>
- Cheung, H. Y., Teo, T., & Hue, M.-T. (2017). Modeling the relationships among emotional intelligence, sensation-seeking and risk-taking attitudes of university students in Hong Kong. *Journal of Risk Research*, 20(5), 569-589.
- Clark, C. A., & Dagher, A. (2014). The role of dopamine in risk taking: A specific look at Parkinson's disease and gambling. *Frontiers in Behavioral Neuroscience*, 30(8), 196-208. <https://doi.org/10.3389/fnbeh.2014.00196>
- Cox, R., Brounen, D., & Neuteboom, P. (2015). Financial literacy, risk aversion and choice of mortgage type by households. *The Journal of Real Estate Finance and Economics*, 50(1), 74-112. <https://doi.org/10.1007/s11146-013-9453-9>
- Czerwonka, M. (2019). Cultural, cognitive and personality traits in risk-taking behaviour: Evidence from Poland and the United States of America. *Economic Research-Economic Research*, 32(1), 894-908. <https://doi.org/10.1080/1331677x.2019.1588766>
- Dariotis, J. K., & Chen, F. R. (2022). Stress coping strategies as mediators: Toward a better understanding of sexual, substance, and delinquent behavior-related risk-taking among transition-aged youth. *Deviant Behavior*, 43(4), 397-414. <https://doi.org/10.1080/01639625.2020.1796210>
- Diaye, M.-A., & Lapidus, A. (2012). Pleasure and belief in Hume's decision process. *The European Journal of the History of Economic Thought*, 19(3), 355-384. <https://doi.org/10.1080/09672567.2010.540339>
- Enns, A., Eldridge, G. D., Montgomery, C., & Gonzalez, V. M. (2018). Perceived stress, coping strategies, and emotional intelligence: A cross-sectional study of university students in helping disciplines. *Nurse Education Today*, 68, 226-231. <https://doi.org/10.1016/j.nedt.2018.06.012>
- Faulkner, J.-P., Murphy, E., & Scott, M. (2019). Rural household vulnerability a decade after the great financial crisis. *Journal of Rural studies*, 72, 240-251. <https://doi.org/10.1016/j.jrurstud.2019.10.030>
- Fernandes, D., Lynch Jr, J. G., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861-1883. <https://doi.org/10.1287/mnsc.2013.1849>

- Ferreira, S. J. (2019). *Is financial risk tolerance influenced by personality traits?* Paper presented at the Paper Presented Economics & Finance Conference.
- Ferreira, S., & Dickason-Koekemoer, Z. (2020). A structural equation model of financial risk tolerance in South Africa. *Cogent Business & Management*, 7(1), 1811595. <https://doi.org/10.1080/23311975.2020.1811595>
- Ferrer, I., Lee, Y., & Khan, M. N. (2020). Understanding the lived experiences and financial realities of older immigrants. *Canadian Ethnic Studies*, 52(2), 53-78. <https://doi.org/10.1353/ces.2020.0013>
- Fisher, P. J., & Yao, R. (2017). Gender differences in financial risk tolerance. *Journal of Economic Psychology*, 61, 191-202.
- Folkman, S., Lazarus, R., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology*, 50(5), 992-1003. <https://doi.org/10.1037/0022-3514.50.5.992>
- Fukunaga, R., Brown, J. W., & Bogg, T. (2012). Decision making in the balloon analogue risk task (BART): Anterior cingulate cortex signals loss aversion but not the infrequency of risky choices. *Cognitive, Affective, & Behavioral Neuroscience*, 12(3), 479-490. <https://doi.org/10.3758/s13415-012-0102-1>
- Gerrans, P., & Heaney, R. (2019). The impact of undergraduate personal finance education on individual financial literacy, attitudes and intentions. *Accounting & Finance*, 59(1), 177-217. <https://doi.org/10.1111/acfi.12247>
- Goyal, K., & Kumar, S. (2021). Financial literacy: A systematic review and bibliometric analysis. *International Journal of Consumer Studies*, 45(1), 80-105. <https://doi.org/10.1111/ijcs.12605>
- Grable, J. E. (2000). Financial risk tolerance and additional factors that affect risk taking in everyday money matters. *Journal of Business and Psychology*, 14(4), 625-630.
- Grable, J. E., & Joo, S. H. (2004). Environmental and biopsychosocial factors associated with financial risk tolerance. *Journal of Financial Counseling and Planning*, 15(1), 73-82.
- Hermansson, C., & Jonsson, S. (2021). The impact of financial literacy and financial interest on risk tolerance. *Journal of Behavioral and Experimental Finance*, 29, 100450. <https://doi.org/10.1016/j.jbef.2020.100450>
- Hong, H. J., & Fraser, I. (2021). My sport won't pay the bills forever': High-performance athletes' need for financial literacy and self-management. *Journal of Risk and Financial Management*, 14(7), 1-16.
- Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, 44(2), 296-316.
- Jappelli, T., & Padula, M. (2013). Investment in financial literacy and saving decisions. *Journal of Banking & Finance*, 37(8), 2779-2792. <https://doi.org/10.1016/j.jbankfin.2013.03.019>
- Jung, Y. H., Shin, N. Y., Jang, J. H., Lee, W. J., Lee, D., Choi, Y., & Choi, S. H. (2019). Relationships among stress, emotional intelligence, cognitive intelligence, and cytokines. *Medicine (United States)*, 98(18), e15345. <https://doi.org/10.1097/md.00000000000015345>
- Kadoya, Y., & Khan, M. S. R. (2020). Financial literacy in Japan: New Evidence using financial knowledge, behavior, and attitude. *Sustainability*, 12(9), 3683. <https://doi.org/10.3390/su12093683>
- Kadoya, Y., & Khan, M. S. R. (2020). What determines financial literacy in Japan? *Journal of Pension Economics & Finance*, 19(3), 353-371. <https://doi.org/10.1017/s1474747218000379>
- Kannadhasan, M. (2015). Retail investors' financial risk tolerance and their risk-taking behaviour: The role of demographics as differentiating and classifying factors. *IIMB Management Review*, 27(3), 175-184. <https://doi.org/10.1016/j.iimb.2015.06.008>
- Korkmaz, A. G., Yin, Z., Yue, P., & Zhou, H. (2021). Does financial literacy alleviate risk attitude and risk behavior inconsistency? *International Review of Economics & Finance*, 74, 293-310. <https://doi.org/10.1016/j.iref.2021.03.002>
- Kostić-Bobanović, M. (2020). Perceived emotional intelligence and self-efficacy among novice and experienced foreign language teachers. *Economic Research-Economic Research*, 33(1), 1200-1213. <https://doi.org/10.1080/1331677x.2019.1710232>
- Kovacevic, M. P., Pozgain, I., Filakovic, P., & Grujic, I. (2018). Relationship between coping strategies and emotional intelligence among patients with schizophrenia. *Danubian's Psychiatry*, 30(3), 299-304.
- Li, Z., Sha, Y., Song, X., Yang, K., ZHao, K., Jiang, Z., & Zhang, Q. (2020). Impact of risk perception on customer purchase behavior: A meta-analysis. *The Journal of Business and Industrial Marketing*, 35(1), 76-96. <https://doi.org/10.1108/jbim-12-2018-0381>
- Lind, T., Ahmed, A., Skagerlund, K., Strömbäck, C., Västfjäll, D., & Tinghög, G. (2020). Competence, confidence, and gender: The role of objective and subjective financial knowledge in household finance. *Journal of Family and Economic Issues*, 41(4), 626-638. <https://doi.org/10.1007/s10834-020-09678-9>
- Loonen, A. J., & Ivanova, S. A. (2016). Circuits regulating pleasure and happiness—mechanisms of depression. *Frontiers in Human Neuroscience*, 10, 571. <https://doi.org/10.3389/fnhum.2016.00571>
- Lucarelli, C., Uberti, P., & Brighetti, G. (2015). Misclassifications in financial risk tolerance. *Journal of Risk Research*, 18(4), 467-482. <https://doi.org/10.1080/13669877.2014.910678>
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5-44. <https://doi.org/10.1257/jel.52.1.5>
- Lusardi, A., & Mitchell, O. S. (2007). Financial literacy and retirement preparedness: Evidence and implications for financial education. *Business economics*, 42(1), 35-44. <https://doi.org/10.2145/20070104>
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy around the world: An overview. *Journal of Pension Economics & Finance*, 10(4), 497-508. <https://doi.org/10.1017/s1474747211000448>
- Marinelli, N., Mazzoli, C., & Palmucci, F. (2017). Mind the gap: Inconsistencies between subjective and objective financial risk tolerance. *Journal of Behavioral Finance*, 18(2), 219-230. <https://doi.org/10.1080/15427560.2017.1308944>
- Mende, M., & Van Doorn, J. (2015). Coproduction of transformative services as a pathway to improved consumer well-being: Findings from a longitudinal study on financial counseling. *Journal of Service Research*, 18(3), 351-368. <https://doi.org/10.1177/1094670514559001>
- Mishra, M., & Mishra, S. (2016). Financial risk tolerance among Indian investors: A multiple discriminant modeling of determinants. *Strategic Change*, 25(5), 485-500. <https://doi.org/10.1002/jsc.2075>

- Moccia, L., Mazza, M., Nicola, M. D., & Janiri, L. (2018). The experience of pleasure: A perspective between neuroscience and psychoanalysis. *Frontiers in Human Neuroscience*, *12*(359), 1-8. <https://doi.org/10.3389/fnhum.2018.00359>
- Moradi, A., Pishva, N., Ehsan, H. B., & Hadadi, P. (2011). The relationship between coping strategies and emotional intelligence. *Procedia-Social and Behavioral Sciences*, *30*, 748-751.
- Morales-Rodríguez, F., & Pérez-Mármol, J. (2019). The role of anxiety, coping strategies, and emotional intelligence on general perceived self-efficacy in university students. *Frontiers in Psychology*, *10*, 1689-1689. <https://doi.org/10.3389/fpsyg.2019.01689>
- Mudzingiri, C., Muteba Mwamba, J. W., & Keyser, J. N. (2018). Financial behavior, confidence, risk preferences and financial literacy of university students. *Cogent Economics & Finance*, *6*(1), 1512366. <https://doi.org/10.1080/23322039.2018.1512366>
- Nejad, M. G., & Javid, K. (2018). Subjective and objective financial literacy, opinion leadership, and the use of retail banking services. *International Journal of Bank Marketing*, *36*(4), 784-804. <https://doi.org/10.1108/ijbm-07-2017-0153>
- Niazi, M. K. S., & Malik, Q. A. (2020). Socio-demographics, risk propensity, and investment diversity moderating role of financial literacy. *International Transaction Journal Of Engineering Management & Applied Sciences & Technologies*, *11*(1), 1-15.
- Nicolini, G., Gärling, T., Carlander, A., & Hauff, J. C. (2017). *References attitude toward risk and financial literacy in investment planning, risk culture In banking*. Caretta, A., Fiordelisi, F., Schwizer, P. (Ed.), *risk culture in banking*. London, UK: Palgrave Macmillan.
- Nigam, R. M., Srivastava, S., & Banwet, D. K. (2018). Behavioral mediators of financial decision making—a state-of-art literature review. *Review of Behavioral Finance*, *10*(1), 2-41. <https://doi.org/10.1108/rbf-07-2016-0047>
- Noorbakhsh, S. N., Besharat, M. A., & Zarei, J. (2010). Emotional intelligence and coping styles with stress. *Procedia-Social and Behavioral Sciences*, *5*, 818-822. <https://doi.org/10.1016/j.sbspro.2010.07.191>
- Noviarini, J., Coleman, A., Roberts, H., & Whiting, R. H. (2021). Financial literacy, debt, risk tolerance and retirement preparedness: Evidence from New Zealand. *Pacific-Basin Finance Journal*, *68*, 101598. <https://doi.org/10.1016/j.pacfin.2021.101598>
- Panno, A., Anna Donati, M., Chiesi, F., & Primi, C. (2015). Trait emotional intelligence is related to risk-taking through negative mood and anticipated fear. *Social Psychology*, *46*(6), 361-367. <https://doi.org/10.1027/1864-9335/a000247>
- Panno, A. (2016). Trait emotional intelligence is related to risk taking when adolescents make deliberative decisions. *Games*, *7*(3), 1-8. <https://doi.org/10.3390/g7030023>
- Pathak, S., & Goltz, S. (2021). An emotional intelligence model of entrepreneurial coping strategies. *International Journal of Entrepreneurial Behaviour and Research*, *27*(4), 911-943. <https://doi.org/10.1108/ijeb-01-2020-0017>
- Pinjisakikool, T. (2018). The influence of personality traits on households' financial risk tolerance and financial behaviour. *Journal of Interdisciplinary Economics*, *30*(1), 32-54. <https://doi.org/10.1177/0260107917731034>
- Rabbani, A. G., Heo, W., & Lee, J. M. (2022). A latent profile analysis of college students' financial knowledge: The role of financial education, financial well-being, and financial risk tolerance. *Journal of Education for Business*, *97*(2), 112-118. <https://doi.org/10.1080/08832323.2021.1895046>
- Raut, R. K. (2020). Past behaviour, financial literacy and investment decision-making process of individual investors. *International Journal of Emerging Markets*, *15*(6), 1243-1263. <https://doi.org/10.1108/ijoem-07-2018-0379>
- Rosales-Pérez, A. M., Fernández-Gámez, M. A., Torroba-Díaz, M., & Molina-Gómez, J. (2021). A study of the emotional intelligence and personality traits of university finance students. *Education Sciences*, *11*(1), 25. <https://doi.org/10.3390/educsci11010025>
- Rubio, V. J., Pujals, C., Vega Marcos, R. d. l., Aguado, D., & Hernández, J. M. (2014). Self-efficacy and sports injuries: Protective or risk factor? *Journal of Sport Psychology*, *23*(2), 0439-0444.
- Sadia, R., Bekhor, S., & Polus, A. (2018). Structural equations modelling of drivers' speed selection using environmental, driver, and risk factors. *Accident Analysis & Prevention*, *116*, 21-29. <https://doi.org/10.1016/j.aap.2017.08.034>
- Salem, R. (2019). Examining the investment behavior of Arab women in the stock market. *Journal of Behavioral and Experimental Finance*, *22*, 151-160. <https://doi.org/10.1016/j.jbef.2019.03.001>
- Schicks, J. (2014). Over-indebtedness in microfinance—an empirical analysis of related factors on the borrower level. *World Development*, *54*, 301-324. <https://doi.org/10.1016/j.worlddev.2013.08.009>
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, *25*(2), 167-177. [https://doi.org/10.1016/S0191-8869\(98\)00001-4](https://doi.org/10.1016/S0191-8869(98)00001-4)
- Selim, A., & Aydemir, S. D. (2014). A literature review on financial literacy. *Journal of Financial Research and Studies*, *6*(11), 33-49. <https://doi.org/10.14784/jfrs.2014117326>
- Sitkin, S. B., & Pablo, A. L. (1992). Reconceptualizing the determinants of risk behavior. *Academy of Management Review*, *17*(1), 9-38. <https://doi.org/10.5465/amr.1992.4279564>
- Sulaiman, E. K. (2012). *An empirical analysis of financial risk tolerance and demographic features of individual investors*. Paper presented at the Paper presented at the 2nd Annual International Conference on Accounting and Finance (AF) / 2nd Annual International Conference on Qualitative and Quantitative Economics Research (QQE).
- Sutejo, B. S., Pranata, Y. K. N., & Mahadwartha, P. A. (2018). *Demography factors, financial risk tolerance, and retail investors*. Paper presented at the Paper presented at the 15th International Symposium On Management (INSYMA 2018).
- Thomas, C. L., Cassady, J. C., & Heller, M. L. (2017). The influence of emotional intelligence, cognitive test anxiety, and coping strategies on undergraduate academic performance. *Learning and Individual Differences*, *100*(55), 40-48. <https://doi.org/10.1016/j.lindif.2017.03.001>
- Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, *101*(2), 449-472. <https://doi.org/10.1016/j.jfineco.2011.03.006>

- West, T., & Worthington, A. C. (2018). Synthesizing an index of financial literacy using not-for-purpose survey data. *Economic Notes: Review of Banking, Finance and Monetary Economics*, 47(2-3), 331-352. <https://doi.org/10.1111/ecno.12107>
- Xiao, J. J., Chen, C., & Chen, F. (2014). Consumer financial capability and financial satisfaction. *Social Indicators Research*, 118(1), 415-432. <https://doi.org/10.1007/s11205-013-0414-8>
- Xiao, J. J., Chen, C., & Sun, L. (2015). Age differences in consumer financial capability. *International Journal of Consumer Studies*, 39(4), 387-395. <https://doi.org/10.1111/ijcs.12205>
- Xiao, J. J., & O'Neill, B. (2016). Consumer financial education and financial capability. *International Journal of Consumer Studies*, 40(6), 712-721. <https://doi.org/10.1111/ijcs.12285>
- Xiao, J. J., & Porto, N. (2017). Financial education and financial satisfaction: Financial literacy, behavior, and capability as mediators. *International Journal of Bank Marketing*, 35(5), 805-817. <https://doi.org/10.1108/ijbm-01-2016-0009>
- Yip, J. A., Stein, D. H., Cote, S., & Carney, D. R. (2020). Follow your gut? Emotional intelligence moderates the association between physiologically measured somatic markers and risk-taking. *Emotion*, 20(3), 462-472. <https://doi.org/10.1037/emo0000561>