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## Impact of conscious and unconscious processes on financial decision-making

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**Abstract:** This study investigates the effect of coping strategies on risky investment intention, together with narratives and phantasy, which are important concepts of emotional finance. Coping strategies are a conscious process that has an impact on financial decisions that cause stress in individuals. Phantasy is an unconscious process and its effect on financial decisions has been shown in previous studies. Narratives are closely related to coping strategies and phantasy. In this context, this study is the first to investigate the effects of both conscious and unconscious processes on financial decision-making. In this study, a positive relationship was found between coping strategies and risky investment intentions. There are positive relationships between coping strategies and narrative and phantasy. At the same time, narrative has a mediating effect on the relationship between coping strategies and phantasy. In addition, the mediating effect of phantasy was determined in the relationship between coping strategies and risky investment intentions.

**Keywords:** conscious processes; unconscious processes financial decision making; phantasy; narrative; coping strategies.

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## 1 Introduction

Risk is a deviation from expectations (Aren and Köten, 2019). It is statistically calculable and objective. However, the perception of risk is subjective (López-Vaquez and Marván, 2003). It includes both cognitive and psychological assessments (Loewenstein et al., 2001; López-Vaquez and Marván, 2003). Azadegan et al. (2020) emphasises that unknown risks are not taken into account in risk mitigation and risk management activities in their work in the context of business continuity. For this reason, risk perception is shaped by past experiences (López-Vaquez and Marván, 2003:62; Romo and Rossi-Pool, 2020), but individual and social evaluations are also important. [López-Vaquez and Marván, (2003), p.62]. Positive emotions cause the perception of risk low and return high (in negative emotions vice versa) (Slovic and Peters, 2006). Azadegan et al. (2019) express the situations in which the occurrence of negative events are very close as near-miss events, and they state that these situations affect behaviours and triggering loss aversion. In this context, it is stated that the typical feature of bubble and economic crisis periods is the changing risk perception of individuals (Aren and Hamamci, 2021a).

Investing in financial markets requires emotional control as well as quantitative analyses. In order to understand financial behaviour, it is necessary to determine all the variables that affect the risk perception (Aren and Aydemir, 2014). Risk perception cannot be evaluated without cognitive and emotional dimensions, but evaluating the event or phenomenon as harmful, beneficial, threatening or providing an opportunity is also a source of stress (López-Vaquez and Marván, 2003). Individuals resort to coping strategies in order to cope with stressful events. In this context, many studies have reported that individuals benefit from coping strategies in the recent COVID-19 pandemic (Baloran, 2020; Götmann and Bechtoldt, 2021; Noreen et al., 2019; Ramos-Lira et al., 2020).

Stress is when a situation or object creates anxiety and tension in the individual as physical, emotional or mental. Stress is evaluated by three processes (Folkman et al., 1986; Carver et al., 1989): Perceiving the threat, thinking about the reaction, and giving the reaction. However, these processes do not always follow this order (Carver et al., 1989). Uncertainty prevails in financial markets (Aren, 2018). Uncertainty causes stress (Styhre et al., 2002), and investors try to make decisions under this uncertainty (Patnaik et al., 2013; Kariofyllas et al., 2017). In this case, the order of the processes mentioned above may change, and a process may trigger the previous one (Carver et al., 1989). For example, a decrease in the price of the purchased asset will cause the risk of losing money for the investor (perceiving the threat) and create stress. Investors can sell their assets (reaction). However, investors who cannot show this courage may not evaluate the fall as a danger (the change in threat perception) and see it as a new buying opportunity and may prefer to reduce the average cost by making additional purchases (considering the different reactions to be given).

In this context, investment is a source of stress and anxiety (Aren and Hamamci, 2022a). Individuals use conscious and unconscious processes to cope with their anxiety. Coping strategies are conscious and, are purposeful reactions, thoughts and actions related to stressful situations (Bouchard and Thériault, 2003). However, individuals sometimes perceive what they want to happen rather than what is as unconsciously (Taffler, 2018). At this point, phantasy and phantastic objects come into play. Phantasy is an unconscious dream that the individual is not aware of it. The phantastic object is a

tangible and visible representation of this. All financial assets have the potential to become phantastic objects (Taffler, 2014). Phantasy and phantastic objects give excitement but they also remove doubt and anxiety (Tuckett and Taffler, 2008; Tuckett, 2011). For this reason, phantasy plays a central role in making financial decisions that both create excitement with the expectation of high income and cause fear with the possibility of loss (Aren, 2019). While phantasy gives the investor the confidence they need and also suppresses the anxiety and fear that prevent them from taking action. For this reason, phantasy is associated with defence mechanisms, which are unconscious coping and stress management strategies (Aren and Hamamcı, 2022a).

Another important concept emphasised by emotional finance research is narratives. Narratives give investors the feeling that the uncertain and unmanageable future is certain and manageable (Thaler and Sunstein, 2008; Chong and Tuckett, 2014; Eshraghi and Taffler 2015; Nyman, 2015; Tuckett and Nikolic, 2017). Thanks to narratives, investors have the opportunity to manage different and conflicting emotions such as anxiety, hope and excitement inherent in investment (Chong and Tuckett, 2014). Narratives eliminate emotional conflict and anxiety (Aren and Hamamcı, 2021b) and give the power to take action with the hope of gaining (Nyman, 2015). In this context, narratives can also be considered as a kind of coping strategy. This is because it strengthens to the investor in eliminating emotional distress, managing stress and coping with difficulties. This power sometimes holds the entire market. In the formation of this effect, conscious processes (Aren and Hamamcı, 2021c) play a role as well as unconscious processes (Taffler, 2018). With this central role, narratives are both the result of conscious coping efforts, a strong supporter of unconscious phantasies and the motivator of investment decisions.

The investment process, which has the possibility of gaining or losing return, is an emotionally and cognitively difficult process for individuals. In our study, we aimed to measure the effect of coping strategies that individuals with the potential to invest in order to manage this difficult investment process on risky investment intention. We also investigated the effect of narratives and the phantasy mediator, which is the most basic unconscious process that individuals have on this relationship. In this context, in our study, the role of coping strategies, narratives and phantasy in the formation of risky investment intention was investigated and at the same time, their relations with each other were modelled. Our study has a unique feature in that conscious and unconscious processes are evaluated together with risky investment intentions.

## **2 Literature review**

### *2.1 Coping strategies*

Coping strategies are the cognitive and behavioural efforts of the individual to manage stress (Folkman et al., 1986; Nakano, 1991; Gabbott et al., 2011; Meléndez et al., 2012; Freire et al., 2016; Oyewobi et al., 2020; Pathak and Goltz, 2021). Some people consistently follow certain coping strategies (Carver et al., 1989). This may be due to personality, or it may also result from the fact that the strategy applied has been experienced before and yielded useful results (Carver et al., 1989). For this reason, the reaction to a stressor may depend on the situation as well as on personal characteristics (Bijttebier and Vertommen, 1999; Freire et al., 2016).

The degree of stress experienced is associated with an individual's assessment of whether he or she can cope with the situation (Folkman et al., 1986; Gabbott et al., 2011; Duschek et al., 2020; Oyewobi et al., 2020). While sometimes stress is experienced since a problem that has actually been solved is still thought to be ongoing, sometimes stress is not experienced since an unresolved problem is perceived as solved (Folkman et al., 1986). How an individual perceives it is as important as the actual effect of the stressor. In this context, coping is not only effort to manage stress, but also overt and covert behaviours to reduce psychological distress and negative effects (Holahan and Moos, 1987). Choosing the right strategy is the assurance of his psychological stability (Roger et al., 1993; López-Vaquez and Marván, 2003; Oyewobi et al., 2020) as well as the determinant of the individual's performance (Nicolas and Jebrane, 2008).

There are different findings in the literature regarding the number of coping strategies, how many groups they are in, and the names of these groups (Folkman et al., 1986; Carver et al., 1989; Nakano, 1991; Berzonsky, 1992; Roger et al., 1993; Bouchard and Thériault, 2003; Zuckerman and Gagne, 2003; Duschek et al., 2020). There are binary classifications such as primary and secondary control coping strategies, cognitive and emotional coping, emotion-focused and problem-focused strategies, active and passive strategies, approach and avoidance motivation (Carver et al., 1989; Nakano, 1991; Gabbott et al., 2011; Meléndez et al., 2012; Freire et al., 2016; Duschek et al., 2020; Pathak and Goltz, 2021). On the other hand, there are also quart classifications such as rational coping, emotional coping, avoidance coping and detachment (Roger et al., 1993). However, it is seen that emotion-focused and problem-focused strategies are used more widely (Holahan and Moos, 1987; Carver et al., 1989; Greer, 2007; Brougham et al., 2009; Gabbott et al., 2011; Oyewobi et al., 2020).

Problem-focused coping strategies are efforts to resolve and change the source of stress through behavioural actions such as action and planning (Folkman et al., 1986; Holahan and Moos, 1987; Carver et al., 1989; Nakano, 1991; Caplan and Schooler, 2007; Greer, 2007; Brougham et al., 2009; Gabbott et al., 2011; Meléndez et al., 2012; Xu and Jin, 2021; Pathak and Goltz, 2021). The likelihood of using these strategies increases when the person thinks that they need to face the problem (Holahan and Moos, 1987; Gabbott et al., 2011) and do something (Carver et al., 1989), and they can reduce or eliminate (control) the threat or stress (Caplan and Schooler, 2007; Pathak and Goltz, 2021). It is accepted that information-oriented people (Berzonsky, 1992) and socially excluded individuals (Xu and Jin, 2021) are more likely to turn to these strategies.

Emotion-focused coping strategies focus on expressing emotions, changing expectations (Folkman et al., 1986; Brougham et al., 2009; Meléndez et al., 2012) and avoiding or enduring stress and emotional distress by reinterpreting the stressor (Pathak and Goltz, 2021; Holahan and Moos, 1987; Carver et al., 1989; Nakano, 1991; Berzonsky, 1992; Caplan and Schooler, 2007; Greer, 2007; Gabbott et al., 2011). Its focus is on the state of mind and emotions (Oyewobi et al., 2020). Individuals with high anxiety (Fernández et al., 2020) turn to these strategies by reinterpreting the events (Gabbott et al., 2011) and thinking that the stressor is not unpleasant (Xu and Jin, 2021). It is generally accepted to be less effective than problem-focused coping strategies. However, when an individual evaluates the perceived threat as a situation that cannot be changed and has to be endured, s/he uses these strategies more (Carver et al., 1989; Caplan and Schooler, 2007; Pathak and Goltz, 2021).

Several studies associate coping strategies with risk-taking. Ben-Zur and Reshef-Kfir (2003) pointed out the existence of relationship between risk-taking and coping strategies

in their study on 10th and 11th grade students. Similarly, Dariotis and Chen (2020) also reported a relationship between risk-taking behaviour and coping strategies of young people in the 18–24 age group. Steinberger et al. (2016), on the other hand, investigated the relationship between the risk-taking behaviour of drivers in almost the same age group (18 to 25) and coping strategies, and found a relationship. McKay et al. (2018) associated sensation seeking with risk taking and found a positive relationship with coping strategies. While Cherewick and Glass (2018) found a relationship between risk-taking behaviour and coping strategies in their study on mothers in the Eastern Democratic Republic of Congo, Senapati (2020) reported the relationship between farmers' risk attitude and coping strategies in India. More generally, Stein et al. (2013) also emphasise that individuals will take more risks to cope with financial difficulties.

Based on this information, we formed the following H1 hypothesis.

H1 Coping strategies and risky investment intention are positively related.

The relationship between coping strategies and narratives is vital. Sometimes, individuals need support from others to cope with their difficulties. Narratives provide this. For example, narratives of the Holocaust in the literature have been associated with survivors and coping strategies (Suedfeld et al., 1997). Williams (2009) stated that narratives help to cope with not only traumatic events but also emotions. Tuval-Mashiach et al. (2004) point out that three factors are important for effective coping (continuity and coherence, creation of meaning, self-evaluation) and that they can be created with narratives. In addition, many other researchers point out that narrative is useful in coping processes and that the two are closely related (Kelley and Clifford, 1997; Carlick and Biley, 2004; Bosticco and Thompson, 2005; Odachowska et al., 2019; Green et al., 2020).

Based on this information, we formed the following H2 hypothesis.

H2 Coping strategies and narratives are positively related.

Coping strategies are conscious processes. In contrast, phantasy is unconscious and the individual is not even aware of it. We think that this conscious process is related to the unconscious process and has an impact on risky investment intention through it. Langenbach et al. (2004) interpret phantasies as admonishments of the need to cope with difficulties. In this context, various studies have stated that conscious and unconscious processes are related. In particular, research has been conducted to evaluate coping strategies and defence mechanisms together. Erickson et al. (1997) state that unconscious defence processes and conscious cognitive and behavioural efforts are activated together to manage stress. While Miceli and Castelfranchi (2001) pointed out that coping strategies are related to the mental attitudes of the individual, Timmermann et al. (2009) in their study on caregivers found that they used unconscious defence mechanisms and conscious coping strategies together in order to manage anxiety, and emphasised that conscious and unconscious processes are related and could be active at the same time. Similarly, Brezinka et al. (1994) also refer to the strong relationship between conscious coping strategies and unconscious defence mechanisms. Cramer (1998) states that the conscious-unconscious status distinction made between defence mechanisms and coping strategies is not an important difference and should only be considered as an emphasis. Klitzing (2003) stated that not all coping strategies are realised at a conscious or voluntary level. In support of these findings, Bonafede et al. (2020) also emphasise the central role of unconscious adaptive processes in the use of coping strategies.

In this context, Mansell et al. (2020) point out coping strategies help recognition of unconscious incompetence and reinforcement of conscious and unconscious competence. Richartz and Frank (2004) also indicate the importance of evaluating not only coping strategies but also unconscious expectations. Because the conscious suppression of unwanted thoughts can become an automatic and unconscious process and affect the behaviour of the person (Miceli and Castelfranchi, 2005). Amoakoh and Smith (2020), with a narrative analysis of 11 African immigrant men, stated that unconscious and conscious biases of these people and coping strategies may be related. Richartz-Salzbürger et al. (2006) also pointed out the importance of the relationship between unconscious expectations and coping strategies.

Based on this information, we formed the following H3 hypothesis.

H3 Coping strategies and phantasy are positively related.

## 2.2 *Narratives*

Narratives are a form of self-expression (Dumanlı and Aren, 2019) in which events are designed and presented in a different order and structure (Aren and Hamamci, 2021a) in a logical harmony (Eshraghi and Taffler, 2015). It has three purposes: making sense, constructing an identity and providing legitimacy (Dumanlı and Aren, 2019). One of the basic concepts of narrative is making sense (Steier, 2007). In this way, individuals attribute meaning to themselves and their environment (Eshraghi and Taffler, 2015) and can evaluate events with their causal effects (Tuckett and Nikolic, 2017). Identity indicates who a person is and how they relate to their environment (Aren and Hamamci, 2021b). Shared and co-developed narratives create a common identity (Phillips et al., 2013). Trust is a consequence of an identity constructed with narratives (Phillips et al., 2013). Legitimacy is the conformity of behaviour to culture, norms, beliefs and values (Aren and Hamamci, 2021c). For identity to be felt, it must be accepted by others and get legitimacy (Baumeister and Newman, 1994).

Narratives help in communication, social acceptance and social evaluation (Green and Sergeeva, 2019). Narratives told within the group make group members feel similar (Phillips et al., 2013). Individual and collective narratives create narrative knowledge (Bange et al., 2020). Narrative knowledge is knowledge based on narrative thinking, reasoning and constructing meaning (Bange et al., 2020). In this context, narratives are the process of producing information, shedding light on what, how and why an individual should know and is constantly updated as new data come in Smart (1999).

Narratives built with the group help the formation of a common identity (Deuten and Rip, 2000; Bange et al., 2020) and unity of purpose (Green and Sergeeva, 2019) and support cooperation (Smart, 1999). The heroes needed in the product development process are created, even if the product fails, and these heroes continue as tragic heroes (Deuten and Rip, 2000). Even in unsuccessful projects, it creates the belief that what is done is right (Deuten and Rip, 2000). It puts the narrator in the role of a hero and shapes expectations (Green and Sergeeva, 2019). For this reason, it is used to explain and justify decisions (Smart, 1999). The important thing in narratives is not consistency but persuasiveness (Green and Sergeeva, 2019). In order to be persuasive, it is associated with lived stories and attracts the attention of large masses (Green and Sergeeva, 2019). However, narratives also have disadvantages such as preventing certain things from being

seen and understood, restricting free choice, and invalidating rationality (Green and Sergeeva, 2019).

Narratives help individuals share common thoughts and perceptions with others (Aren and Hamamcı, 2021a), take action and be committed to decisions (Dumanlı and Aren, 2021). For this reason, there are narratives in every situation where people are (Dumanlı and Aren, 2019). Narratives are necessary for both the narrator and listener (Aren and Hamamcı, 2021b). Narratives spread throughout the market by helping individuals dream (Tuckett et al., 2014), and confidence prevails in the market (Aren and Hamamcı, 2021c). This trust continues until anxiety and panic occur (Shiller, 2005).

Narratives give investors the feeling that they can understand, control and manage uncertainty (Thaler and Sunstein, 2008; Chong and Tuckett, 2014; Eshraghi and Taffler 2015; Nyman, 2015; Tuckett and Nikolic, 2017). In this way, they have the trust they need to take action (Aren and Hamamcı, 2021a) perceived risk (Pollack et al., 2012) and uncertainty (Allison et al., 2013) low. Thanks to narratives, they get support from others to make decisions when necessary (Tuckett and Nikolic, 2017), and they do not experience emotional conflict and anxiety (Aren and Hamamcı, 2021b). The important thing is not the accuracy of narratives, but their rationality and persuasiveness (Taffler, 2014).

Although narratives is a conscious process, Weidenfeller (2009) mentions that narratives may have an unconscious function to get rid of guilt. Narratives and unconscious phantasy are related concepts. In a recent study, Aren and Hamamcı (2021b) empirically modelled and proved this relationship. In previous years, studies have emphasised that these two concepts are closely related by using different research techniques in different contexts. Perelberg (1995) stated in a psychoanalytic study that narratives allow phantasy to be defined and understood. Similarly, Perelberg (1997) points to a phantasy to be identified of narratives. Grotstein (2008) underlined that the relationship can be bidirectional and emphasises that phantasy pioneers the formation of images in the narrative, but at the same time, phantasy is also built with narrative. Treacher (2006) also states that phantasies are formed through narratives in the social sphere with conscious and unconscious fantasies.

Based on this information, we formed the following H4 hypothesis.

H4 Narratives and phantasy are positively related.

Various studies have shown that there is a relationship between narratives and risk-taking. Reinertsen and Asdal (2019) state that narratives can encourage risk taking. Day and Shea (2020) state that narratives about the companies' innovation increase prudent risk-taking. Although Kim et al. (2021) could not detect a relationship between narrative and risk perception in their study in the real estate investment trust (REIT) sector, Mills and Pawson (2012) point out that entrepreneurs increase risk-taking through their narratives. Similarly, Watson et al. (2019) point out that franchise entrepreneurs' narratives are related to risk-taking tendencies.

Based on this information, we formed the following H5 hypothesis.

H5 Narratives and risky investment intentions are positively related.



### 2.3 *Phantasy*

Phantasy based on an individual's infancy is unconscious beliefs, desires and dreams (Taffler and Tuckett, 2010; Raines and Leather, 2011). This concept, first expressed by Freud, plays an important role in psychoanalysis. Freud sometimes evaluates phantasy as conscious and sometimes unconscious and defines it as wish-fulfilling (Spillius, 2001). According to him, the main thing is the satisfaction of the wishes. If the wish is suppressed at the unconscious level, phantasy occurs and if it continues to be suppressed, it turns into a dream and fantasies formation (Spillius, 2001). For this reason, he sees dream-formation and phantasy formation as parallel processes.

Hussel, who is contemporary with Freud, considers phantasy as an image consciousness and remembering (Micali, 2020). In image consciousness, an object that does not actually exist is perceived as a real object. In remembering, an intuitive situation is experienced as real and it is believed that a certain perception really happened in the past (Micali, 2020). According to Husserl's approach, the common point between phantasy and perception is intuitiveness (Lohmar, 2020). Micali (2020) also states that phantasy mediates the relationship between perception and thought and is an indirect expression of desires. In addition, the author mentions that there may be conscious, preconscious, and unconscious phantasy formations.

Klein uses phantasy as unconscious thought and feeling, sees it as imagination and defines it as an activity that exists since birth and is necessary for mental development (Spillius, 2001). Individuals unconsciously perceive what they want to happen rather than what is happening (Taffler, 2018). For this reason, phantasies are imaginary according to material reality, but they are felt real at the conscious or unconscious level and affect behaviours (Spillius, 2001). The embodiment form of phantasies is the phantastic object (Aren and Hamamci, 2021a) and is defined as the mental representation that meets the wishes and desires of the individual (Taffler, 2014). Klein mentions that phantasies affect the perception of external reality and that external reality also interacts with each other by affecting phantasies (Spillius, 2001).

The difference between the real object and the phantastic object is the sense element, and the most basic sense element is an intentional performance. In this context, the phantastic object turns into a real object when the individual is unconsciously or consciously loaded onto an asset intentionally. Phenomenologically, phantasy is unique (Lohmar, 2020) and the more exciting an entity is, the more it has the potential to become a phantastic object (Tuckett, 2009). Not being able to have an asset that has become a phantastic object causes unconscious dreams not to be satisfied (Aren and Hamamci, 2021b). Investors also associate financial instruments with dreams (phantasy and fantasy) that exist in conscious and unconscious minds. The investment process becomes an emotional relationship between the investment and the investor (Taffler and Tuckett, 2010), and the investment tool is idealised and turns into a phantastic object (Aren and Hamamci, 2021b). Due to their structure, financial markets create an appropriate environment for this (Taffler et al., 2017). Many new and unknown financial instruments have the potential to become phantastic objects (Aren and Hamamci, 2021a). One of the elements that direct individuals to buy assets is desire (Montazeribarforoushi et al., 2017). Investors also tend to these assets because of their unconscious phantasies (Taffler, 2014) and this tendency also creates financial bubbles (Taffler and Tuckett, 2003; Aren, 2019).

As a result, there is a relationship between financial instruments and the mind (Tuckett, 2011) and the role of the unconscious process is critical in the decisions taken (Bargh and Chartrand, 1999; Turnbull and Solms, 2007; Bargh and Morsella, 2008; Tom et al., 2007). Phantasy is also an important component of these processes (Taffler and Tuckett, 2010). However, individuals are not aware of the effects of phantasies on their behaviour (Taffler, 2018). In this context, narratives told in the market also contribute greatly to this process. Dumanlı and Aren (2021) likened phantasy to storytelling, and pointed out that it is directed to action by adding meaning to the experience. Tuckett (2011) and Lohmar (2020) also make a similar emphasis.

Studies investigating the relationship between phantasy and risk-taking in financial markets are very limited. In this context, studies conducted by Tuckett and Taffler together and separately (e.g., Tuckett and Taffler, 2008; Tuckett, 2009; Taffler and Tuckett, 2010; Taffler, 2014) are pioneers in the literature. In these studies, they emphasised that phantasy increases risk-taking without rational justification and is an important cause of financial bubbles. In three recent studies, Aren and Hamamcı (2021; 2021c; 2022a) first developed a scale for phantasy and then reported findings that it was positively associated with risky investment intention.

Based on this information, we formed the following H6 hypothesis.

H6 Phantasy and risky investment intentions are positively related.

**Table 1** Demographic variables

<i>Variable</i>	<i>Category</i>	<i>Frequency</i>	<i>%</i>
Gender	Male	874	51.7%
	Female	818	48.3%
Age	20–30	946	55.9%
	31–40	477	28.2%
	41–50	174	10.3%
	+51	95	5.6%
Education	Primary school	31	1.9%
	High school	179	10.6%
	Undergraduate	1135	67.1%
	Graduate	347	20.5%
Marital status	Married	675	39.9%
	Single	1017	60.1%

### 3 Methodology

#### 3.1 Data

In our study, we aimed to investigate the relationship between risky investment intention, which is a source of stress, and coping strategies that individuals use to cope. In addition, the effect of narrative and phantasy mediator on this relationship is investigated. For this reason, the target people of the study is people over the age of 20 with the potential to invest. Grebely et al. (2008) and McCreesh et al. (2012) recommends convenience

sampling to reach different groups and more individuals. There are various costs (time, amount, etc.) to reach a large number of subjects. In this context, Hedt and Pagano (2011) also point out that convenience sampling provides a cost advantage. Aren et al. (2021) and Aren and Hamamci (2022b), on the other hand, preferred convenience sampling in their studies on individuals with the potential to invest and using variables similar to the variables used in this study. Elliott and Haviland (2007) state that convenience sampling can be used when the standard deviation of the predicted model is less than 0.1. The RMSEA value of the research model tested in our study was also calculated as 0.046 and remained below the stated value. Considering the literature expressed, the data of the study was collected between 03–21 May 2021 by online survey method, on the basis of convenience sampling and volunteering. The questionnaire was prepared online and the link was sent to our graduate students. They also shared this link on their social networks. Thank you for our students. 1,692 people participated in the survey and gave complete answers to all questions.

As can be seen from Table 1, there are data that are balanced in terms of gender and can be considered balanced in terms of marital status. As our graduate students are helpful in sharing the survey link, as expected, young and undergraduates are predominant. When evaluated in general, we can say that the subjects are young, highly educated, and distributed in a balanced way in terms of gender and marital status.

### 3.2 *Variables*

This study had three independent variables (coping strategies, narrative and phantasy and a dependent variable (risky investment intentions). For the coping scale, Folkman et al. (1986) developed the scale was preferred. This article has over 2,200 Web of Science citations as of September 2021. To the best of our knowledge, there is only one scale used for risky investment intention in the literature, and it was developed by Aydemir and Aren in 2017 and has received more than 15 Web of Science citations since then. The concepts of narrative and phantasy are variables belonging to a special field of finance, which began to take shape under the sub-title of emotional finance, with the work of Taffler and Tuckett together and separately in the last 15 years. The only validity and reliability scale to measure these two variables using the questionnaire was developed this year (2021). Summary information regarding the scales used in this study is presented in Table 2.

### 3.3 *Research model*

In the study, it is aimed to test the mediator role of narrative and phantasy in the relationship between coping and risky investment intention. Coping is a conscious process. Phantasy is considered an unconscious process. Narratives are both closely related to the coping mechanisms that individuals resort to against the difficulties they encounter, and are in a structure that feeds their phantasies. In this context, as explained in detail in the literature review section, this study has six hypotheses. The default model used in this study is shown in Figure 1.

**Table 2** Scales

<i>Variable</i>	<i>Item</i>	<i>Scale</i>
<i>Coping</i>	36	<i>Folkman et al. (1986)</i>
A. Confrontive coping	<ol style="list-style-type: none"> <li>1. Stood my ground and fought for what I wanted</li> <li>2. Tried to get the person responsible to change his or her mind</li> <li>3. I expressed anger to the person(s) who caused the problem</li> <li>4. I let my feeling out somehow</li> <li>5. Took a big chance or did something very risky</li> <li>6. I did something which I did not think would work but at least I was doing something</li> </ol>	
B. Accepting responsibility coping	<ol style="list-style-type: none"> <li>7. Criticised or lectured myself</li> <li>8. Realised I brought the problem on myself</li> <li>9. I made a promise to myself that things would be different next time</li> <li>10. I apologised or did something to make up</li> </ol>	
C. Distancing coping	<ol style="list-style-type: none"> <li>11. Made light of the situation.; refused to get too serious about it</li> <li>12. Went on as if nothing had happened</li> <li>13. Did not let it get to me; refused to think about it too much</li> <li>14. Tried to forget the whole thing</li> <li>15. Looked for the silver lining, so to speak; tried to look on the bright side of thing</li> <li>16. Went along with fate; sometimes I just have bad luck</li> </ol>	
D. Escape-avoidance coping	<ol style="list-style-type: none"> <li>17. Wished that the situation would go away or somehow be over with</li> <li>18. Hoped a miracle would happen</li> <li>19. Had fantasies about how thing might turn out</li> <li>20. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, and so forth</li> <li>21. Avoided being with people in general</li> <li>22. Refused to believe that it had happened</li> <li>23. Took it out on other people</li> <li>24. Slept more than usual</li> </ol>	

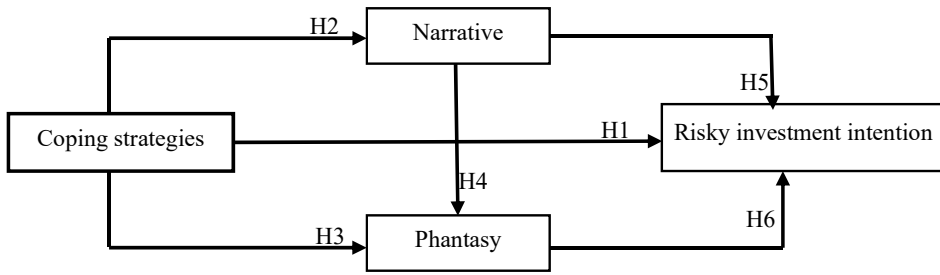
**Table 2** Scales (continued)

<i>Variable</i>	<i>Item</i>	<i>Scale</i>
A. Self-controlling coping		
	1. I tried to keep my feelings to myself	
	2. Kept others from knowing how bad things were	
	3. Tried not to burn my bridges, but leave things open somewhat	
	4. I tried not to act too hastily or follow my first hunch	
	5. I tried to keep my feelings from interfering with other things too much	
	6. I went over in my mind what I would say or do	
B. Planful–problem-solving coping		
	7. I knew that had to be done, so I doubled my efforts to make things work	
	8. I made a plan of action and followed it	
	9. Just concentrated on what I had to do next-the next step	
	10. Changed something so things would turn out all right	
	11. Drew on my past experiences; I was in a similar position before	
	12. Came up with a couple of different solutions to the problem	

Table 2 Scales (continued)

<i>Variable</i>	<i>Item</i>	<i>Scale</i>
<i>Narrative</i>	6	<i>Aren and Hamamci (2021)</i>
	1. When I think of the past, the first thing that comes to mind is my achievements	
	2. My achievements are the result of my own knowledge and ability	
	3. There are always factors that I can't control at the root of my failures	
	4. When I re-evaluate my failures, I find that I have been sacrificed to someone or something	
	5. Luck plays a very small role in my success	
	6. The biggest share of my success belongs to me	
<i>Phantasy</i>	6	<i>Aren and Hamamci (2021)</i>
	1. I believe that if I do enough research, I can find	
	2. risk-free and high return financial instruments that most people don't know about	
	3. If I find out a new financial asset that most people don't know, I will invest in it	
	4. I believe that if I invest in a new financial asset that most people don't know about, I will earn a lot	
	5. I feel privileged if I invest in a new financial asset that many people don't know about	
	6. I believe that if I invest in a new financial asset that most people don't know about, I can realise my dreams	
	7. The excitement and happiness I experience from my investment in a financial instrument that many people do not know about are as important to me as my return from it	
<i>Risky investment intention</i>	4	<i>Aydemir and Aren (2017)</i>
	1. While making investment decision, I generally prefer risky alternatives	
	2. If I were going to make an investment, I would consider risky investment alternatives	
	3. The likelihood of buying risky investments is high	
	4. My willingness to buy risky investment is high	

**Figure 1** Default (theoretical) model



SEM was used to test the model. SEM tests the power of the theoretical model by analysing the relationships between variables (Van Damme et al., 2015). SEM, which is a multivariate statistical method, is a powerful approach in terms of investigating and testing direct, indirect and total effects between multiple variables (Dang et al., 2013). In terms of these features, SEM is a powerful method that is frequently used in social science research methodology.

#### 4 Analyses

Folkman et al.’s (1986) coping scale has six sub-dimensions: confrontive coping, accepting-responsibility, distancing/escape-avoidance, self-controlling, Planful problem-solving. As we investigated the mediating role of narrative and phantasy in the relationship between coping strategies and risky investment intention, a two-step approach was applied in the analyses, followed by Aydemir and Aren (2017). Two-step factor analysis allows to evaluate scales with more than one sub-dimension under one dimension. In particular, multidimensional structures such as coping, emotional intelligence, defense mechanisms, etc. can be considered in one dimension depending on the aim of the research. For this, first, two-step factor analysis should be done, which tests that each item is loaded with the relevant sub-scale and then the sub-scales is loaded to the relevant scale. Anderson and Gerbing (1988) state that the two-step approach is a method that allows more meaningful inferences to be made compared to the one-step approach. For this reason, two step factor analysis was performed for coping, which has more than one sub-scale in our study. The results of the confirmatory factor analyses are presented in Table 3.

**Table 3** Confirmatory analyses

<i>Variable</i>	<i>CMIN/DF</i>	<i>RMSEA</i>	<i>GFI</i>	<i>AGFI</i>	<i>CFI</i>	<i>TLI</i>	<i>NFI</i>	<i>RFI</i>
Coping	5,316	0.051	0.934	0.919	0.889	0.874	0.867	0.849
Phantasy	3,627	0.039	0.997	0.985	0.998	0.993	0.998	0.991
Narrative	6,298	0.056	0.996	0.974	0.989	0.943	0.987	0.933
Risky investment intention	2,193	0.027	0.999	0.994	1,000	0.999	1,000	0.998

**Table 4** Structural equation modelling (SEM) for hypotheses

Hypotheses	Direction		Standardised estimate				P	Decision
	Coping	—>	Risky investment intention	CFI	TLI	NFI		
H1	CMIN/DF	RMSEA	GFI	AGFI	CFI	TLI	NFI	RFI
	4,952	0.048	0.927	0.913	0.910	0.900	0.890	0.877
H2	Coping	—>	Narrative		0.498			Accepted
	CMIN/DF	RMSEA	GFI	AGFI	CFI	TLI	NFI	RFI
H3	4,995	0.048	0.920	0.906	0.863	0.849	0.835	0.818
	Coping	—>	Phantasy		0.169			Accepted
H4	CMIN/DF	RMSEA	GFI	AGFI	CFI	TLI	NFI	RFI
	5,120	0.048	0.917	0.903	0.882	0.871	0.858	0.844
H5	Narrative	—>	Phantasy		0.160			Accepted
	CMIN/DF	RMSEA	GFI	AGFI	CFI	TLI	NFI	RFI
H6	5,478	0.053	0.977	0.959	0.973	0.960	0.967	0.952
	Narrative	—>	Risky investment intention		0.026			Not accepted
H6	CMIN/DF	RMSEA	GFI	AGFI	CFI	TLI	NFI	RFI
	4,243	0.047	0.985	0.973	0.986	0.978	0.981	0.972
H6	Phantasy	—>	Risky investment intention		0.541			Accepted
	CMIN/DF	RMSEA	GFI	AGFI	CFI	TLI	NFI	RFI
H6	3,089	0.035	0.990	0.980	0.995	0.992	0.992	0.988

Note: \*\*\*<0.001.



Goodness-of-fit indices show the scales and the model's fit with the observed data (Aydemir and Aren, 2017). Hom et al. (1992) states that CMIN/DF and RMSEA predict model fit better in his study, where he uses sample size-affected and unaffected fit indices, but also states that other fit indices such as NFI should be used. Similarly, Aydemir and Aren (2017) emphasise that other fit indices should be used in addition to CMIN/DF and RMSEA, which are less significant as the sample gets larger and the variables in the model increase. In this context, in our study, both chi-square/degree of freedom (CMIN/DF) and root mean square error of approximation (RMSEA) and goodness-of-fit index (GFI), adjusted goodness-of-fit (AGFI), comparative fit index (CFI), Tucker–Lewis index (TLI), normed fit index (NFI), relative fit index (RFI), other fit indices are used. These values are shown in Table 3.

The default approach in the confirmatory analysis is that the CMIN/DF value is 5 or less and the RMSEA value is 0.05 and less. Other fit indices (GFI, AGFI, CFI, TLI, NFI, RFI) are desirable to be greater than 0.90. However, Sadia et al. (2018) stated that as the number of parameters increases, these values may deteriorate and above 0.550 can be accepted. Aren and Hamamci (2021a, 2022a) in two separate studies in which they used phantasy, narrative and risky investment intention variables, accepted fit indexes such as GFI, AGFI, CFI, TLI, NFI, RFI when they are above 0.70. Similarly, they still accepted CMIN/DF values above 5 and RMSEA values above 0.05 if the other fit indexes were higher than the threshold. In this study, all fit indexes for phantasy and risky investment intention variables are very good according to the default approach (see Table 3). The CMIN/DF and RMSEA value for the coping variable is slightly higher, but the other fit indexes are well above 0.55 and 0.70 and are very good. Although the CMIN/DF and RMSEA values for the narrative variable were slightly high, the other index values were excellent.

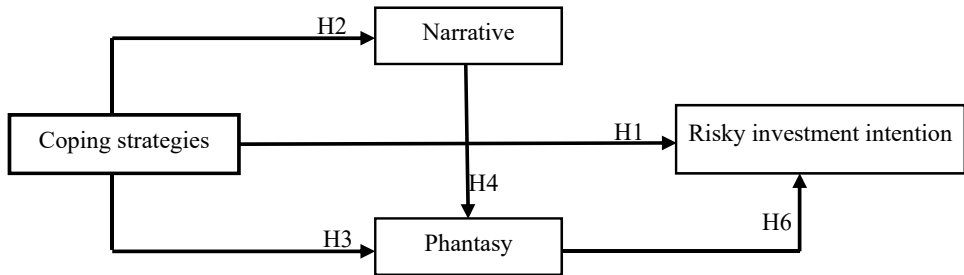
After the confirmatory analyses, the hypotheses were tested. The default model in our study had a very complex structure. Phantasy and narrative are mediator variables in the relationship between coping and risky investment intentions. The narrative also has a mediating role in the relationship between coping strategies and phantasy. Before testing this complex structure as a whole, it is necessary to look at individual relations as a precondition for the mediator effect. In this framework, each hypothesis was first tested and reported separately. Subsequently, the model was tested as a whole.

As stated above, first, six hypotheses of the study were tested one by one. Anderson and Gerbing (1988) state that SEM is a powerful method for theory development and construct validation. Aydemir and Aren (2017) also used SEM to measure the direct and indirect effects of independent variables on the dependent variable and stated that the method is more powerful because it is based on both factor analysis and multiple regression analysis. For this purpose, six different structural equation modelling (SEM) analyses were performed. The analysis results are presented in Table 4. In Table 4, the analyses of each hypothesis are presented separately. 'Direction', 'standardised estimate' and 'p' values are shown in the first line of the section for each hypothesis. The direction shows the two tested variables and the direction of the relationship. Standardised estimate points out that the relationship is positive or negative as +/- . The p-value indicates whether the existing relationship is statistically significant. '\*\*\*' is interpreted as statistically significant at 0.001 error level.

As a result of the analyses, the H5 hypothesis could not be accepted and a significant relationship could not be determined between the narrative and risky investment intention. For this reason, the mediating role of narrative in the relationship between

coping strategies and risky investment intentions cannot be mentioned. Based on this finding, a research model was created by subtracting this relationship from the default (theoretical) model, as shown in Figure 2.

Figure 2 Research model



The model was tested as a whole after providing the preconditions for mediator relations. The results of the SEM analysis performed for this purpose are presented in Table 5.

Table 5 Structural equation modelling (SEM) for research model

			Standardised estimate	P				
Coping	—>	Narrative	0.505	***				
Coping	—>	Phantasy	0.114	*				
Coping	—>	Risky investment intention	-0.010	0.062				
Narrative	—>	Phantasy	0.145	***				
Phantasy	—>	Risky investment intention	0.544	***				
Indirect effect <sup>a</sup> (coping—> risky investment intention)			0.242 (0.160–0.335)					
Indirect effect <sup>b</sup> (coping—> phantasy)			0.173 (0.069–0.292)					
<i>CMIN/DF</i>		<i>RMSEA</i>	<i>GFI</i>	<i>AGFI</i>	<i>CFI</i>	<i>TLI</i>	<i>NFI</i>	<i>RFI</i>
4,624		0,046	0.898	0.885	0.88	0.880	0.86	0.852
					8		2	

Notes: \* < 0.05; \*\* < 0.10; \*\*\* < 0.001; 5000 bootstrap samples; Percentile confidence intervals = 95).

As shown in Figure 1, two separate mediating variables (narrative and phantasy) were predicted in the relationship between coping strategies and risky investment intention in the default (theoretical) model of our study. It was also investigated whether the narrative variable had a mediating effect in the relationship between coping strategies and phantasy.

In a recent study by Aren and Hamamcı (2022c), they used SEM analysis to test the mediating effect. As they follow, Baron and Kenny (1986) propose a three-stage method to test whether a variable has a mediating effect in the model. Accordingly, it should first be determined that the independent variable (coping strategies) has a significant effect on the variable that is considered to be the mediating variable. In this context, it should be tested whether the coping strategies variable has a significant relationship with the two mediating variables, narrative (H2) and phantasy (H3), which are predicted in its relationship with the risky investment intention. In Table 4, it is seen that the H2 and H3

hypotheses, which indicate statistically significant relationships, are accepted. In the second step, it should be shown that the independent variable (coping strategies) has a significant effect on the dependent variable (risky investment intention). Again, in Table 4, it is seen that the H1 hypothesis for this is accepted. In the last step, mediating variables (narrative and phantasy) should have a significant effect on dependent variables. In this regard, hypotheses H5 and H6 were established and tested. Since the H5 hypothesis cannot be accepted, it is not possible to say about the mediating effect of the narrative variable in the relationship between coping strategies and risky investment. However, there is a mediating effect of phantasy in the relationship between coping strategies and risky investment.

As stated above, in the default (theoretical) model shown in Figure 1, the mediating effect of narrative in the relationship between coping strategies and phantasy is also hypothesised. Again, following Baron and Kenny (1986), in the first step, there should be a significant relationship between coping strategies and narrative, which is provided by the accepted H2 hypothesis. In the second step, the relationship between coping strategies and phantasy should be significant, and this was confirmed by the H3 hypothesis. In the last step, there should be a statistically significant relationship between narrative and phantasy. This is expressed by hypothesis H4 and accepted as can be seen from Table 4. Accordingly, narrative does not have a mediating effect in the relationship between coping strategies and risky investment intention, but it has a mediating effect in the relationship between coping strategies and phantasy.

In this context, the research model was revised as shown in Figure 2. The whole model was analysed with the SEM, which Anderson and Gerbing (1988) suggested for theory development and construct validation and Aydemir and Aren (2017) considered stronger than alternative models.

As a result of the explanations we made about the fit indexes, it is seen that all of them are acceptable and the model is meaningful. When we examine the relations, coping–narrative, coping–phantasy, narrative–phantasy and phantasy–risky investment intention relations were found significant. These findings support the hypothesis of this study. The coping–risky investment intention relationship was not significant. This is the desired condition. The H1 hypothesis was tested and accepted before testing the entire model. When phantasy took part in the model as the mediator, the coping–risky investment intention relationship became insignificant. In addition, the ‘indirect effect<sup>a</sup>’ value was calculated as 0.242, and it was found between the range values (0.160–0.335) that do not include the value of ‘0’. From this point of view, it can be said that phantasy has a full mediation effect on the coping–risky investment intention relationship.

The second mediator effect is the mediating role of the narrative in the coping–phantasy relationship. In the results of the SEM analysis performed to test H3, the coping–phantasy relationship was found to be significant at a value of 0.169 and an error level of 0.000 (see Table 4). In the results of the SEM analysis, where the whole model was tested, the value of the relationship dropped to 0.114, but it was still significant at an error level of 0.05. The ‘indirect effect<sup>b</sup>’ value was calculated as 0.173, and it was found between the range values (0.069–0.292) that do not include the ‘0’ value. From this point of view, the partial mediating effect of narrative in the coping–phantasy relationship can be mentioned.

## **5 Discussion**

Risk taking can indicate success in an individual context (Ibrahim and Al-Ajlouni, 2018) and is associated with profitability and growth on a firm basis (Jalali et al., 2013). Studies also emphasise that risk-taking behaviour can be developed in various ways (Mujahid et al., 2020). This study is important in terms of investigating the effects of both conscious and unconscious processes on the risky investment intention. Coping strategies of individuals are considered a conscious process, unlike defence mechanisms. Phantasy is an unconscious fantasy. Although narratives are accepted as a conscious process, Weidenfeller (2009) also points out that it may have an unconscious function to get rid of guilt. In addition, Aren and Hamamcı (2021a) provided empirical evidence that narrative is one of the precursors of phantasy. In this study, while the mediating role of phantasy in the relationship between coping and risky investment intention was investigated, at the same time, the mediating role of narratives in the relationship between coping and phantasy was also investigated. In this context, as far as we know, it is the first study in which the effect of conscious and unconscious processes on the risk investment intention is discussed in such a complex and together. This is quite important. In particular, the studies conceptualised under the emotional finance approach by Taffler and Tuckett show that it is insufficient to consider individuals' financial decisions only at the conscious level.

Six hypotheses were tested in this study. All but one were accepted. The only rejected hypothesis (H5) is the predicted positive relationship between narratives and risky investment intentions. Although studies on entrepreneurship and innovativeness (e.g., Pawson, 2012; Watson et al., 2019; Day and Shea, 2020) have reported findings on the existence of this relationship, the studies handled in the contexts of individual investors (Aren and Hamamcı, 2021b) and real estate investment (Kim et al., 2021) have not been able to confirm this hypothesis. One explanation for this may be that narratives are very important for entrepreneurs to make sense of themselves and their work (O'Neill and Gibbs, 2016). In contrast, this intensity may be felt less in other aspects of investment. However, another possible explanation is that narratives may have an indirect effect by triggering conscious and unconscious processes, rather than having a direct effect on risky investment intention alone. Because narratives serve three basic purposes such as making sense, constructing an identity and providing legitimacy (Dumanlı and Aren, 2019). Although these factors do not have any effect on direct investment intention and risk-taking, they may have hidden and overt effects on many affective and cognitive characteristics of individuals. In support of this, the other two hypotheses of our study (H2 and H4) were accepted. Positive relationships were found between coping and narratives and between narratives and phantasy. Both hypotheses are very important. Because, with the findings we obtained within the framework of this model, we supported the view that the narratives predicted theoretically and tested empirically only separately are related to conscious and unconscious processes. SEM analysis, in which the model was tested as a whole, the mediating role of narrative between coping, which is a conscious process, and phantasy, which is an unconscious process, was also proven. Therefore, narratives are associated with both conscious and unconscious processes and at the same time, also have a mediating role between these two.

The other three accepted hypotheses (H1, H3 and H6) of the study belong to coping, phantasy and risky investment intention relations. A positive relationship was found between coping strategies and risky investment intentions. Different studies have

reported a positive relationship between coping strategies and non-financial risk-taking (Ben-Zur and Reshef-Kfir, 2003; Steinberger et al, 2016; Cherewick and Glass, 2018; Dariotis and Chen, 2020). However, in relation to finance, there are far fewer studies stating that it increases risk-taking in the context of financial distress (Stein et al., 2013). Our findings, on the other hand, contribute to the limited literature in this area. In this context, it was determined that individuals have more risky investment intentions by using different coping strategies. In addition, findings on the relationship between coping strategies and phantasy and the mediating effect of phantasy on the relationship between coping and risky investment intention were provided. In this respect, our study provides unique findings to the conscious and unconscious processes and financial decision-making literature.

This study also has beneficial results in terms of market makers and financial advisors. The financial bubbles and excitement experienced in financial markets cannot be understood at a cognitive level only by conscious processes. Excitement occurs with high levels of pleasure and arousal and is an important element of purchasing [Wakefield and Baker, (1998), p.519]. For this reason, although excitement contains some emotional components, it is also the trigger for conscious activities such as purchasing. In addition, market makers mainly consider cognitive elements and almost entirely conscious processes when evaluating markets and investors. However, humans are a whole with emotions and cognition. It has unconscious fantasies as well as conscious evaluations. Even if they are not aware of it, they also affect their decisions.

Similarly, financial advisors provide also information-supported advice to their investors at the cognitive level. They try to persuade and convince them of a conscious way. However, the advice given without understanding their feelings and not being aware of unconscious wishes will be incomplete. In addition, it should not be forgotten how central individuals' need for narratives is for both socialisation and identity and for providing legitimacy. There are always narratives in the market. These form investors' beliefs and strengthen their commitment to decisions. It is also extremely important that this power of narratives is known by financial advisors and used for the benefit of the investor.

In conclusion, this study is the first to evaluate the conscious and unconscious processes of risky investment intention. In order to test and model the relationships, it was tried to reach as many subjects as possible with the potential to invest. However, in future studies, it may be useful to reach people who have an active investment portfolio and to repeat the analysis. In addition, in this study, coping strategies, which are used consciously in order to cope with the stress that risky investment may create on the individual, are included in the model. In future studies, it will be useful to include defense mechanisms from unconscious processes in the model. As a result, the increase in the number of studies carried out in this context and adding different processes to the model is very important for understanding and directing financial decisions correctly.

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