

Anticipatory Emotion and Risky Financial Behavior: The Moderating Role of Regulatory Focus

Emosi Antisipatif dan Perilaku Keuangan Berisiko: Peran Moderasi *Regulatory Focus*

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ABSTRACT

Emotions that are presently experienced when anticipating an outcome are known as anticipatory emotions. The more positive the anticipatory emotions are, the more likely an individual is to engage in risky behavior. Previous research has suggested that individuals with strong promotion-focused self-regulation are also more prone to risk-taking. However, the potential moderating role of regulatory focus on the effect of emotion on risky financial behavior was unclear. This study aimed to investigate whether the relationship between anticipatory emotion and risky financial behavior would be dependent on individual differences in promotion or prevention regulatory focus. Using a cross-sectional design, participants ($N = 417$), aged 21-35, minimum high school graduate, and having income completed an online survey assessing anticipatory emotion, regulatory focus, and risky financial behavior. The moderation effect was tested using PROCESS Model 1. We found that anticipatory emotion was significantly and positively correlated to risky financial behavior. Moreover, promotion-focused self-regulation exacerbated the effect of anticipatory emotion on risky behavior in the economic domain. However, the prevention regulatory focus did not exert a significant moderating effect on the relationship. The implications of these findings highlight the critical role of motivational orientation focused on reward in understanding emotional influence on risky behavior.

Keywords: Anticipatory emotion, prevention focus, promotion focus, risky behavior, decision making

ABSTRAK

Emosi yang dirasakan langsung saat mengantisipasi hasil dikenal sebagai emosi antisipatif. Semakin positif emosi antisipatif, semakin besar kemungkinan seseorang untuk melakukan perilaku berisiko. Penelitian sebelumnya telah memperlihatkan bahwa individu dengan *promotion regulatory focus* juga cenderung lebih rentan terhadap pengambilan risiko. Namun, apakah *regulatory focus* dapat memengaruhi efek emosi terhadap perilaku keuangan yang berisiko masih belum jelas. Penelitian ini bertujuan untuk menyelidiki apakah hubungan antara emosi antisipatif dan perilaku keuangan yang berisiko bergantung pada perbedaan individu dalam *regulatory focus* (*promotion* atau *prevention*). Studi ini menggunakan desain cross-sectional. Partisipan ($N = 417$) yang berusia 21-35 tahun, minimal berpendidikan SMA, dan memiliki penghasilan, menyelesaikan survei daring yang terdiri dari pengukuran emosi antisipatif, *regulatory focus*, dan perilaku berisiko dalam hal keuangan. Efek moderasi diuji menggunakan PROCESS Model 1. Penelitian ini menemukan bahwa emosi antisipatif secara signifikan dan positif berkorelasi dengan perilaku keuangan yang berisiko. Selain itu, *promotion regulatory focus* memperburuk efek emosi antisipatif terhadap perilaku berisiko di bidang keuangan. Namun, *prevention regulatory focus* tidak memberikan efek moderasi yang signifikan pada hubungan tersebut. Implikasi dari temuan ini menyoroti peran penting orientasi motivasi individu yang berfokus pada *reward* dalam memahami pengaruh emosi terhadap perilaku berisiko.

Kata Kunci: Emosi antisipatif, regulatory focus, perilaku keuangan berisiko

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INTRODUCTION

Our decisions, especially financial decisions (e.g., investing), involve expected outcomes and risk (Knutson & Bossaerts, 2007). Decisions are riskier if the expected outcomes are seen as more uncertain, the desired goals are more difficult to achieve, or the potential outcomes include extreme consequences (Sitkin & Pablo, 1992). Despite the level of risk, people often make decisions amidst uncertainty in risky situations, where the subsequent outcomes remain unclear (Loewenstein *et al.*, 2001) and put themselves at the potential for gains and losses or a combination thereof (Schonberg *et al.*, 2011). Individuals' risky decisions in risky situations that potentially have negative consequences are known as *risky behavior* (Sitkin & Pablo, 1992). In this study, we specifically focused on risky behavior in the financial domain, which is financial behavior (i.e., spending, borrowing, and saving) that potentially bears negative consequences and hurts general well-being (Xiao *et al.*, 2014). The use of financial technology, such as online lending services (including PayLater), and reckless investment decisions are examples of the most common risky financial behavior.

As a case in point, between 2019 and 2023, the decision of using online loan platforms has resulted in over 20 suicides and suicide attempts among Indonesians who were unable to repay the loans (Ananda, 2023; Puteri *et al.*, 2022; Setyowati, 2023). Risky financial behavior can also lead to poor financial conditions that negatively influence personal well-being such as poor sleep quality, lower levels of life satisfaction, higher risk of depression, suicidal thoughts and ideation (Bialowolski *et al.*, 2021; Bialowolski & Weziak-Bialowolska, 2021; Ferreira *et al.*, 2021; Turunen & Hiilamo, 2014). Thus, it is important to understand factors that can influence our decision-making process in risky financial situations. Such understanding can help academicians, mental health professionals, and policy makers craft appropriate

interventions that help people improve their financial behavior.

To date, studies on risky financial behavior have frequently been associated with financial literacy and financial knowledge as influencing factors. For example, some studies (Aristei & Gallo, 2021; Asaad, 2015) showed that financial confidence is a critical component of financial literacy and is important across all knowledge levels. Individuals with higher confidence in their perceived (or self-assessed) knowledge but lower actual knowledge tended to have a higher propensity to engage in risky (costly) financial behavior and to experience losses due to investment fraud or being over-indebted. Conversely, unconfident individuals are less likely to engage in risky financial behaviors. These findings were supported by another study by Ahmed *et al.* (2018), which demonstrated that both perceived and actual financial literacy among investors are necessary for making accurate decisions with minimum risk. The findings indicate that higher and medium-level financial literacy leads to better financial risk tolerance, enabling investors to confidently invest in risky securities, as they believe that they are able to manage risky financial conditions.

Additionally, individual differences, such as self-control and dark triad traits, also play a key role in risky financial behavior. There is a negative relationship between self-control and risky financial decision-making, where success in self-control reduces a person's tendency to take risks, while failure in self-control makes individuals more prone to financial risk (Sekścińska *et al.*, 2021). Dark triad traits, specifically narcissism and psychopathy, explained general propensity to take financial risks, the propensity to take investment and gambling risks (Sekścińska & Rudzinska-Wojciechowska, 2020). Moreover, in the last two decades, the role of emotion in financial decision-making has garnered increasing attention.

Researchers have sought to understand how emotions influence decisions under uncertainty (Kusev *et al.*, 2017). For example,

Rendall *et al.* (2021) studied the impact of individual emotions on the decision to adopt high-risk debt management choices. They found that individuals who reported feeling excited were more likely to endorse high-risk debt management strategies, whereas guilt and alertness were negatively associated with endorsing such choices. Additionally, how individuals perceive different credit options is also influenced by emotions such as shame, guilt or anger (Marston *et al.*, 2018). Other researchers investigated the effect of incidental emotion (e.g. mood) that have no specific relationship to, or not integral with the specific risky situation being evaluated (Bartholomeyczik *et al.*, 2022; Gabbi & Zanotti, 2019). These prior studies not only lack in the conceptualization of the emotion (e.g. Rendall *et al.*, 2021), but they also did not measure emotions that have direct association or not integral with the risky situation at hand. This approach differs from the operational definition of emotion used in our study.

Our approach emphasizes the role of anticipatory emotions which are integral to the risky situation faced by an individual. We followed Loewenstein *et al.* (2001) suggestion, who expanded the role of emotion by highlighting affect experienced at the moment of evaluating a situation and decision-making process through the Risk-as-Feelings theory. According to the Risk-as-Feelings theory (Loewenstein *et al.*, 2001), anticipatory emotions are emotions experienced in the present while contemplating specific decision options and their potential outcomes. These emotions can predict risky decisions (Loewenstein *et al.*, 2001). For example, when deciding whether to take an online loan, Joshua might feel immediate fear at the thought of being unable to repay it in the future. An appropriate probe to assess anticipatory emotions is: 'How do you feel right now about choosing to take online loan?' (Schlösser *et al.*, 2013). This study would focus on to what extent anticipatory emotions could predict risky financial behavior.

Several studies have examined the effects of anticipatory emotions on risky decisions (e.g., Dal & Nisbet, 2022; Zhang & Shou, 2022). However, research specifically investigating the impact of anticipatory emotions in the financial context remains limited. Hinvest *et al.* (2021) used skin conductance responses (SCR) as an index for anticipatory emotion during investment decisions. Their findings indicated that, for non-professional investors, higher levels of anticipatory emotion were associated with more significant losses, while lower levels were linked to overall gains. This suggests that higher anticipatory emotions may lead to reduced risk aversion and poorer investment performance. Another study by Knutson and Greer (2008) provided neural evidence that immediate positive arousal, indicated by neural activity in the Nucleus Accumbens (NAcc), could promote approach behavior and predict more high-risk investment decisions. In contrast, immediate negative arousal, indicated by neural activity in the anterior insula, predicted more low-risk investment decisions. In relation to gambling, positive anticipatory emotions (i.e., hope and excitement) can lead individuals to prefer a delayed resolution of risk, prompting them to participate in several events and enter multiple lotteries draws overtime (Kocher *et al.*, 2014). In line with this finding, a study by Grmani *et al.* (2024) showed that anticipatory emotions towards gambling were lower in a loss context. The decrease in positive anticipatory emotions in the loss context led to a reduction in risk-taking behavior. These findings demonstrate that emotions and feelings experienced during decision-making and outcome anticipation can significantly influence our choices. Based on the aforementioned studies, we hypothesized that anticipatory emotion positively related to risky financial behavior, the higher anticipatory emotion (i.e., more positive), the higher the intention to commit risky financial behavior (Hypothesis 1).

Financial behavior in contexts of gain or loss can be driven by individuals' self-

regulatory strategies to achieve their goals (Florack *et al.*, 2013). According to Regulatory Focus Theory (Higgins, 1998), there are two strategic orientations in self-regulation and goal pursuit: promotion focus and prevention focus. Promotion focus stems from the regulation of growth and advancement needs, emphasizing potential gains and employing approach-oriented means to achieve them. Conversely, prevention focus arises from the regulation of protection and security needs, emphasizing the avoidance of potential losses and employing vigilance-oriented means. In other words, a person's regulatory focus determines whether their primary motivation is promotional (advancing and creating, using approach-oriented strategies) or preventative (protecting and avoiding, using avoidance-oriented strategies) (Higgins *et al.*, 2001). In the context of risky behavior, previous findings have suggested that risky behavior may naturally arise from the eagerness of promotion-focused individuals, while safe (risk-avoidant) behavior may naturally arise from the vigilance of prevention-focused individuals (Ewe *et al.*, 2018; Hamstra *et al.*, 2011). Additionally, in terms of gambling decision in both the gain and loss frame, a higher level of chronic promotion motivation and situationally induced promotion motivation were related to the preference for the non-sure option over the sure one (Sekścińska *et al.*, 2016).

Furthermore, regulatory focus can influence how and when affect/emotion serves as a source of information in decision-making and judgment. Pham and Avnet (2009) demonstrated that reliance on affect or emotions in judgment and decision-making is more associated with promotion focus than prevention focus. Similarly, a study by Sassenrath *et al.* (2014) revealed that promotion-focused motivational orientation facilitates facial emotion recognition compared to a prevention focus, reflecting sensitivity to emotions conveyed through facial information. Thus, regulatory focus varies across individuals, leading to differences in thinking

and judgment based on their sensitivity and reliance on affect.

In line with these findings and reasoning, we suspected that the strength of the effect of emotions on risky behavior may also differ based on an individual's tendency towards a promotion focus – a regulatory focus dimension characterized by sensitivity to rewards and positive emotional influence. Since the motivational nature of a promotion focus (i.e., to ensure gains/positive outcome) fosters a reliance on and sensitivity to affect, the impact of anticipatory emotion on risky behavior may be enhanced through a moderating effect of a promotion focus. In contrast, people with a prevention focus are better prepared for analytical thinking to ensure safety and avoid potential losses (Sassenberg *et al.*, 2022), making anticipatory emotion less influential on their risky behavior.

However, to what extent individual differences in promotion focus and prevention focus would influence the effect of anticipatory emotion on risky behavior has yet to be explored. This study aimed to introduce novelty by addressing this gap by examining the following research question: To what extent does the relationship between anticipatory emotion and risky financial behavior vary in individuals with a stronger tendency toward promotion or prevention regulatory focus? Given the possible influence of regulatory focus on risky behavior and the involvement of emotion-based decision-making in individuals with stronger promotion focus, we proposed that promotion focus would significantly strengthen the relationship between anticipatory emotion and the intention of risky financial behavior (Hypothesis 2), and prevention focus would significantly weaken the relationship between anticipatory emotion and the intention of risky financial behavior (Hypothesis 3).

We aimed for the current study to contribute to the theoretical understanding of the psychological mechanisms underlying risky behavior. It is also important to note that most research on the role of anticipatory emotion in

the psychological mechanisms of risky financial behavior has been conducted in WEIRD (White, Educated, Industrialized, Rich, and Democratic) countries. To the best of our knowledge, this topic has been scarcely investigated in non-WEIRD countries, such as Indonesia. Therefore, we hope that the findings of this study will enhance the understanding of the psychological mechanisms of risky behavior in a non-WEIRD context.

METHODS

This research is a quantitative study using a cross-sectional design. This study was part of a larger line of the second author's research focusing on the role of emotions in risky financial behavior. This study has been evaluated and approved by The Committee on Research Ethics at the Faculty of Psychology, Universitas Indonesia (Number: 215/FPsi.Komite Etik/PDP.04.00/2023) prior to the data collection.

Participants

The sampling technique used in this study is convenience sampling. A total of 608 participants who met the criteria (i.e., aged 21-35 years old, minimum high school graduate, having income) took part in this study. 191 participants were excluded from the data analysis due to failing attention check items, leaving a final sample of 417 (208 females and 209 males, 32.4% aged 21-25 years; 23.3% aged 26-30 years; 44.4% aged 31-35 years). Of all the participants, 89.4% reported having graduated from high school; 4.1% had finished their diploma or vocational education; 6.2% had finished their undergraduate degrees and .2% had finished their master's degrees. In terms of economic status, 60% of participants had income less than Rp 4,900,000/month; 37.4% had Rp 4,900,000-9,999,999/month; 2.2% had more than Rp 10,000,000/month and .5% chose not to answer. Most participants reside in Jakarta (57.8%), Tangerang (14.6%) and Depok (10.3%).

Measures

Anticipatory Emotion Measures. In order to elicit anticipatory emotions and decisions to engage in risky behavior, we created three *vignettes* involving risky financial choices. These *vignettes* depicted real-life situations commonly experienced by people and were developed based on preliminary focus group discussions. The *vignettes* encompassed investments and online loans, which have uncertainties and potentially lead to debt (all scenarios are provided in the supplementary files). For each *vignette*, participants rated their anticipatory emotions and risky behavioral intentions.

Anticipatory emotion was measured by asking the participants to rate the levels of worry and fear (for negative anticipatory emotions; see Baumgartner *et al.*, 2008; Zhang & Shou, 2022) and joy and hope (for positive anticipatory emotions; see Carrera *et al.*, 2012; Kocher *et al.*, 2014) that they would experience *at present* if they decided to commit risky behavior based on the situation depicted in each scenario. These emotions are commonly considered prototypical anticipatory emotions strongly associated with risky behavior (Baumgartner *et al.*, 2008). The participants were asked to indicate the levels of each of the anticipatory emotions by responding to a question "How do you feel right now if you have decided to engage in the depicted behavior?". Ratings were collected using 6-point response scales, from 0 = 'Not feeling at all' to 5 = 'Extremely' for each emotion (Cronbach's α for positive emotions = 0.79 and negative emotions = 0.77). For each vignette, we calculated the mean of each positive and negative emotion and then subtracted the mean of negative emotions from positive emotions. The total score for anticipatory emotion was the average of these differences across all vignettes. Thus, higher scores indicated more positive anticipatory emotion.

Risky Behavior. Risky behavior was assessed using a single-item measure for each vignette, wherein participants indicated their intention to engage in a respective risky behavior (e.g., "If you are in this situation, how

likely are you to decide to buy the handphone using PayLater?”), using a 5-point Likert scale ranging from 1 = “Very Unlikely” to 5 = “Very Likely”. The Cronbach’s Alpha for the measure was relatively low at .5. It most likely happened because it was calculated using each item measured in three different vignettes depicting three different behaviors, allowing for variations in participants’ responses. This low reliability is indeed likely to occur in single-item measures (Loo, 2002). Considering the research context, the item was retained as we believed it is still able to measure the construct effectively.

Regulatory Focus. Regulatory focus was measured using *Regulatory Focus Questionnaire* (Higgins *et al.*, 2001). The RFQ scale was translated into Bahasa Indonesia and back-translated into English by certified translators and reviewed by experts in related fields (i.e. psychology of decision making). A subsequent confirmatory factor analysis with 134 participants revealed the two factor model did not have good construct validity as it did not meet the criteria for model fit ($X^2(134) = 101.866$; $p < 0.05$; CFI = 0.826 (< 0.90); TLI = 0.778 (< 0.95); RMSEA = 0.101 (> 0.08) [90% CI 0.076, 0.127]; SRMR = 0.093 (> 0.08)). Four items with factor loadings below < 0.3 were identified. These items were revised based on theoretical considerations and expert input, specifically by clarifying the item wording to ensure alignment with the construct being measured. The revised version was carefully reviewed and received clearance from expert prior to being used for data collection in this study.

The RFQ contains two subscales and each subscale has an acceptable internal consistency: promotion (6 items; Cronbach’s $\alpha = 0.63$) and prevention (5 items; Cronbach’s $\alpha = 0.63$). A sample item in the promotion subscale is “How often have you accomplished things that got you “psyched” to work even harder?”. A sample item in the prevention subscale is “Growing up, would you ever “cross the line” by doing things that your parents would not tolerate?” (reverse scored). The participants answered each item along a 5-point Likert scale (1 = Never or Seldom, 5 = Very Often).

We placed one attention check item at the end of each vignette, which makes for a total three attention check items. Before participants proceed to the next vignette, they must select the number that corresponds to the statement. For example: “This study requires you to read and listen to several hypothetical situations. If you are reading this question, please answer with number 5.”

Procedure

Participants filled in questionnaires on SurveyMonkey (surveymonkey.com). The link was distributed through various social media platforms for a month (September – Oktober 2023). Before filling out the questionnaires, participants were asked to read the informed consent form and state their agreement to be involved in the study. Participants then read a vignette, followed by measures for anticipatory emotions and financial risky behavior. Before proceeding to the second vignette, participants were required to complete an attention check question. After finishing all three vignettes, participants completed the regulatory focus measure.

Data Analysis

Firstly, a partial correlation was performed to examine the correlation between anticipatory emotion and intention to commit risky behavior (Hypothesis 1). We tested the moderation effect of regulatory focus on the relationship between anticipatory emotion and risky behavior using PROCESS Model 1 (Hypothesis 2 and 3). Specifically, we conducted two separate moderation analyses: the first analysis (Model A) focused on the moderating effect of promotion regulatory focus. In contrast, the second analysis (Model B) focused on the role of prevention regulatory focus as the moderator. In both analyses, anticipatory emotion was employed as the independent variable, and intention to commit risky behavior as the dependent variable, while gender (0 = female, 1 = male), age, domicile, education, and income of the participants was included as a covariate.

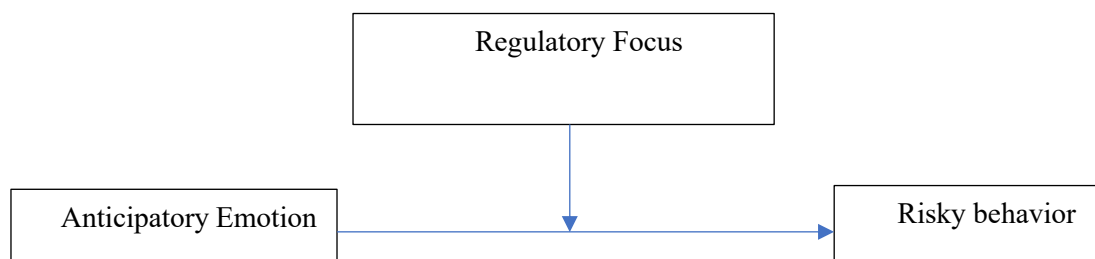


Figure 1. Research Model

The moderation analyses were conducted using a bootstrapping method with a value of 5,000. Model significance and moderation effects were evaluated based on p -value ($p < 0.05$) and the confidence interval range that must not include 0. The data analysis utilizes SPSS 27 for Windows.

RESULTS

Partial Correlations

Prior to conducting the moderation analysis, we performed descriptive and partial correlational analyses (see Table 1). Whilst controlling for gender, age, domicile, education, and income, anticipatory emotion was found to be significantly correlated with risky behavior ($r = 0.253, p < 0.001$). However, there were no significant correlations between anticipatory emotion and both regulatory focus, as well as between both regulatory focus and risky financial behavior. Since promotion focus and prevention focus were significantly correlated, we would consider prevention focus as a covariate in the analysis where promotion focus was involved as a moderator, and vice versa.

Moderation Analyses

We ran two moderation analyses. Model A was the analysis that involves promotion focus as a moderator, and Model B involves prevention focus as a moderator. Both analyses involved anticipatory emotion as a predictor and risky behavior as a dependent variable. The

moderation analyses showed a significant main effect of anticipatory emotion on risky behavior (Model A, $b = 0.13$, 95% CI [0.07, 0.18], $p < 0.001$; Model B, $b = 0.13$, 95% CI [0.08, 0.19], $p < 0.001$) after controlling for demographic variables and the prevention or promotion focus level. There was no significant main effect of promotion and prevention on risky behavior (Model A, $b = -0.15$, 95% CI [-0.35, 0.04], $p > 0.05$; Model B, $b = 0.08$, 95% CI [-0.03, 0.18], $p > 0.05$).

Significant interaction was found between anticipatory emotion and promotion regulatory focus (Model A, $b = 0.13$, 95% CI [0.03, 0.24], $p < 0.05$). However, no significant interaction was observed with prevention regulatory focus (Model B, $b = 0.04$, 95% CI [-0.03, 0.11], $p > 0.05$). The results of the moderation analysis are shown on Table 2 and Table 3.

Specifically, in Model A, a positive and significant relationship between anticipatory emotion and risky behavior was found when promotion focus was strong ($b = 0.176$, 95% CI [0.11, 0.23], $p < 0.001$), moderate ($b = 0.126$, 95% CI [0.07, 0.17], $p < 0.001$), and weak ($b = 0.075$, 95% CI [0.00, 0.14], $p = < 0.05$). As shown in Figure 2, the relationship between anticipatory emotion and risky behavior became more pronounced as participants' promotion regulatory focus got stronger. In contrast, as shown in Figure 3, the combined effect of anticipatory emotion and prevention regulatory focus does not substantially influence risky behavior intention.

Table 1. Descriptive Statistics and Partial Correlations (N= 417)

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Anticipatory emotion	0.38	1.43	-		
2. Risky behavior	3.04	0.80	0.253***	-	
3. Promotion Regulatory Focus	3.17	0.39	-0.012	-0.071	-
4. Prevention Regulatory Focus	3.42	0.73	-0.028	0.035	0.190***

Note. Conditioned on variables: Gender, Age, Domicile, Education, Income.

* $p < 0.05$, ** $p < .01$, *** $p < .001$

Table 2. Results of Moderation Analyses Model A (PROCESS Model 1)

Parameter	<i>b</i>	<i>SE</i>	<i>t</i>	LLCI	ULCI
Model A, DV: risky behavior, moderator: promotion regulatory focus, $F(9,407) = 6.81$, $p < 0.001$, $R = 0.362$, $R^2 = 0.131$					
Constant	2.28	0.27	8.56	1.76	2.80
Sex	0.08	0.08	1.08	-0.07	0.23
Age	0.06	0.04	1.44	-0.02	0.15
Domicile	0.09	0.03	3.09**	0.03	0.14
Education	0.02	0.07	0.25	-0.12	0.16
Income	0.06	0.05	1.01	-0.05	0.16
PRE	0.07	0.05	1.30	-0.04	0.17
ANTEM	0.13	0.03	4.68***	0.07	0.18
PRO	-0.15	0.10	-1.54	-0.35	0.04
ANTEM x PRO	0.13	0.05	2.43*	0.03	0.24

Note. LLCI = lower limit of confidence interval; ULCI = upper limit of confidence interval; DV = dependent variable; PRO = promotion regulatory focus; PRE = prevention regulatory focus (as covariate); ANTEM = anticipatory emotion (as the independent variable in all models).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3. Results of Moderation Analyses Model B (PROCESS Model 1)

Parameter	<i>b</i>	<i>SE</i>	<i>t</i>	LLCI	ULCI
Model B, DV: risky behavior, moderator: prevention regulatory focus, $F(9,407) = 6.24$, $p < 0.001$, $R = 0.348$, $R^2 = 0.121$					
Constant	3.03	0.37	8.12	2.30	3.76
Sex	0.09	0.08	1.21	-0.06	0.24
Age	0.06	0.04	1.33	-0.03	0.14
Domicile	0.09	0.03	3.08**	0.03	0.14
Education	0.02	0.07	0.26	-0.12	0.16
Income	0.04	0.06	0.69	-0.07	0.15
PRO	-0.16	0.10	-1.58	-0.35	0.04
ANTEM	0.13	0.03	4.83***	0.08	0.19
PRE	0.08	0.05	1.40	-0.03	0.18
ANTEM x PRE	0.04	0.03	1.17	-0.03	0.11

Note. LLCI = lower limit of confidence interval; ULCI = upper limit of confidence interval; DV = dependent variable; PRE = prevention regulatory focus; PRO = promotion regulatory focus (as covariate); ANTEM = anticipatory emotion (as the independent variable in all models).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

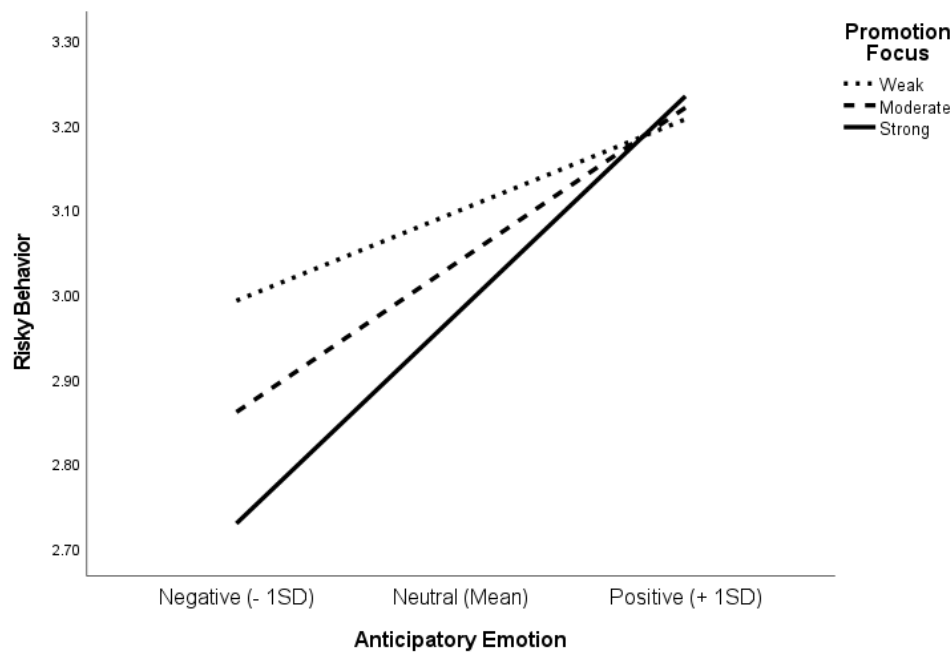


Figure 2. The significant interaction of anticipatory emotion and promotion regulatory focus on risky behavior intention

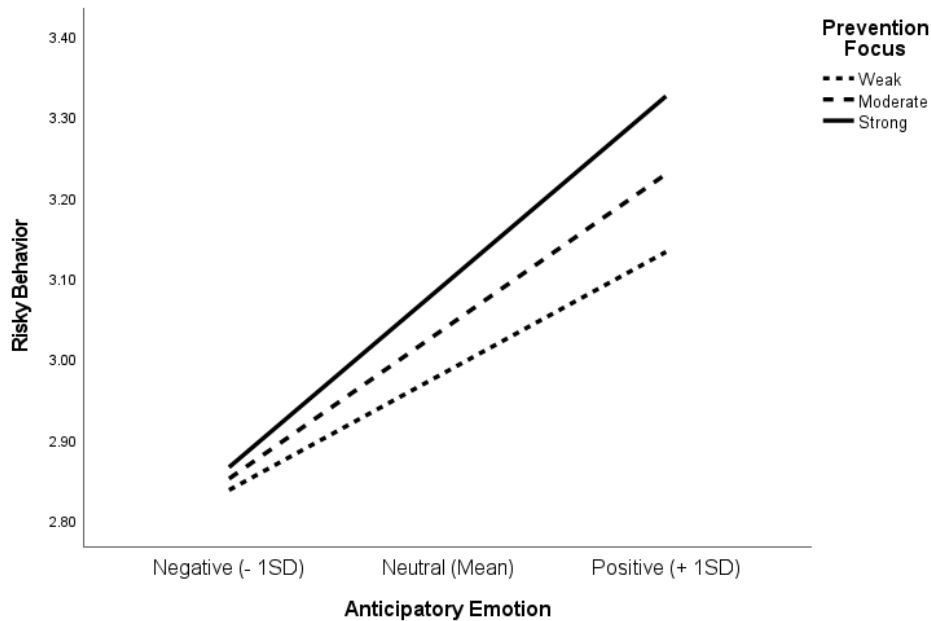


Figure 3. The non-significant interaction of anticipatory emotion and prevention regulatory focus on risky behavior intention

DISCUSSION

In the present study, we looked at the moderating role of regulatory focus on the relationship between anticipatory emotion and

risky financial behavior. Partial correlations showed that anticipatory emotion is significantly and positively related to risky financial behavior. This finding supports Hypothesis 1, indicating that the more positive

the anticipatory emotion, the more likely individuals are to engage in risky financial behavior. This finding also aligns with previous studies on anticipatory emotion and risky decisions. For example, Zhang and Shou (2022) found that higher negative anticipatory emotion (fear) was linked to lower risky behavior, while higher positive anticipatory emotions (comfort and excitement) were linked to higher risky behavior. Similarly, a study by Dal and Nisbet (2022) found that positive anticipatory emotions significantly predicted online political expression despite the risk of detention, arrest, or surveillance, whereas negative anticipatory emotion did not.

Regarding risky financial behavior, previous studies by Knutson and Greer (2008) and Hinvest *et al.* (2021) used physiological measurements (SCR) and brain activity in reward-related areas to show how anticipatory emotion might influence decisions. Hinvest *et al.* (2021) suggested that anticipatory emotion might be a physiological response to uncertainty, affecting decisions both consciously and unconsciously. Knutson and Greer (2008) found that higher excitement (shown by brain activity in the NAcc area) was positively linked to high-risk investment decisions. Researchers have found that reward-related brain areas, such as the Nucleus Accumbens (NAcc) and bilateral Anterior Insula (AI), respond to the anticipation of monetary rewards, evoking strong positive emotions (Chen *et al.*, 2022; Li *et al.*, 2015). Additionally, more neural activation in the bilateral AI is linked to lower sensitivity to punishment, leading to riskier decision-making (Von Siebenthal *et al.*, 2020). In line with these findings, the findings of our study also suggested that the more positive the emotion experienced during anticipation, the more likely individuals are to engage in risky financial behavior.

Our correlational analysis found that promotion focus was not linked to risky behavior after controlling for demographic factors like sex, age, education, and income (Grable, 2000). However, the moderation

analysis showed that promotion regulatory focus positively affected the relationship between anticipatory emotion and risky financial behavior. Specifically, a stronger promotion regulatory focus enhanced this relationship, supporting Hypothesis 2.

Promotion focus directs individuals' attention towards their goals and ambitions, increasing sensitivity to positive outcomes and fostering a preference for eager approach strategies to achieve goals (Higgins *et al.*, 2001). This strategy and outcome sensitivity can significantly impact financial risk-taking. The eager approach associated with promotion focus naturally leads to a tendency towards risky choices. Promotion-focused individuals, who prioritize positive outcomes, tend to worry less about the potential negative consequences of risks. Taking risks can maximize their chances of reaching a positive outcome, goal, or reward (Crowe & Higgins, 1997; Scholer *et al.*, 2010). Earlier study by Sekścińska *et al.* (2016) showed that risky financial decision were affected by promotion focus. Specifically, the authors found that a higher level of chronic promotion motivation was associated with a greater propensity to take financial risk in a gambling task, as indicated by a preference for the non-sure option over the sure one. Another study also showed that promotion focus could weaken the negative relationship between perceived control and perceived risk in their effect on the intention to apply for a credit card online (Jiang *et al.*, 2021).

Additionally, under promotion focus, emotional inputs are given more weight, indicating a stronger reliance on emotions when making judgments and decisions (Pham & Avnet, 2009). When selecting information, individuals with promotion focus were also more dependent on their emotion. Specifically, promotion-focused individuals preferred hedonic information (i.e. aesthetic and experiential types of information rather than instrumental and practical types), when they were happy. In contrast, emotions did not influence the information choices of prevention-focused individuals (Wang *et al.*,

2020). The cognitive biases towards seizing opportunities for rewarding goals and relying on emotions in decision-making likely underpin the effect of positive anticipatory emotion. Consequently, individuals with a stronger promotion focus are more likely to engage in risky financial behavior when influenced by anticipatory emotions.

On the other hand, prevention regulatory focus had no significant moderating effect on the relationship between anticipatory emotion and risky financial behavior, leaving Hypothesis 3 unsupported. This finding might be related to the weak relationship between prevention focus and emotion-based processing. It has been suggested that people with a stronger preference for prevention focus foster more analytical processing (Friedman & Förster, 2000), which should encourage the reliance on semantic-based logical information (Lee *et al.*, 2019), rather than affective information. Individuals who adopt prevention focus as a self-regulation strategy are also mainly driven by a desire to maintain security and to avoid mistakes, thus they are more likely to be in the state of vigilance and less prone to rely on affective/emotional cues (Florack *et al.*, 2013).

An alternative explanation may involve the relationship between regulatory focus and reward-related processes. Previous studies (e.g., Gorman *et al.*, 2012) have suggested that reward-related processes are associated differentially with Behavioral Inhibition System/Behavioral Activation System (BIS/BAS). Furthermore, research suggests that BIS/BAS distinctions in personality traits are strongly, yet differentially, related to prevention and promotion focus. Individuals with a stronger prevention focus exhibit characteristics similar to BIS, such as heightened sensitivity to punishment, reduced involvement in reward-related processes, and a tendency towards loss avoidance (Oiknine *et al.*, 2021; Wang *et al.*, 2022). These characteristics may be less influenced by anticipatory emotions oriented towards rewards and gain pursuit (Wang *et al.*, 2022).

Conversely, promotion focus has been linked to BAS traits, which are associated with positive affect and reward-oriented processes (Oiknine *et al.*, 2021; Wang *et al.*, 2022). Our results suggest that anticipatory emotions may facilitate risky financial behavior in individuals with strong reward sensitivity, such as those with a strong promotion focus. Therefore, we conclude that our findings highlight the differential mechanisms of anticipatory emotions based on individual differences in reward-related motivational processes and orientations.

Certain limitations need to be considered when interpreting these results. First, this study has not considered affective traits, where some individuals may naturally be more inclined to experience more positive rather than negative emotions, and *vice versa* (Delgado-García *et al.*, 2012). Thus, future studies might want to control for affective traits when replicating our study design. Secondly, in this study, risky financial behavior was evaluated as a broad construct. Future studies might want to investigate the mechanisms of a particular risky financial behavior (e.g., borrowing, investing, financial cheating, etc.) to examine the replicability of the current findings.

CONCLUSIONS

This study explored the relationship between anticipatory emotion and risky financial behavior in conjunction with regulatory focus (promotion vs. prevention). The results revealed that anticipatory emotion is significantly and positively correlated with risky financial behavior. This suggests that the more positive an individual's emotions are when contemplating a decision and anticipating an outcome, the more likely they are to engage in risky financial behavior. Furthermore, promotion focus significantly amplifies the relationship between anticipatory emotion and risky financial behavior. On the other hand, prevention focus did not significantly impact this relationship. In conclusion, these findings indicate that anticipatory emotions can

influence risky behavior through motivational traits that are sensitive to rewards, such as a strong tendency towards promotion focus.

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REFERENCES

- Ahmed, Z., Ramakrishnan, S., & Noreen, U. (2018). Two sides of a coin: Effects of perceived and actual financial literacy on investment decision making behavior mediated by financial risk tolerance. *International Journal of Engineering & Technology*, 7(4/28), 499–504. <https://doi.org/10.14419/ijet.v7i4.28.22638>
- Ananda, P. (2023, December 18). *Korban Bunuh Diri Karena Pinjol Tertinggi Sejak 5 Tahun Terakhir*. [Suicide Victims due to Online Loans Reach Highest Number in the Last 5 Years]. *Mediaindonesia.com*. Retrieved from <https://mediaindonesia.com/ekonomi/638332/korban-bunuh-diri-karena-pinjol-tertinggi-sejak-5-tahun-terakhir>
- Aristei, D., & Gallo, M. (2021). Financial knowledge, confidence, and sustainable financial behavior. *Sustainability*, 13(19), 10926. <https://doi.org/10.3390/su131910926>
- Asaad, C. T. (2015). Financial literacy and financial behavior: Assessing knowledge and confidence. *Financial Services Review*, 24(2), 101–117. <https://doi.org/10.61190/fsr.v24i2.3236>
- Bartholomeyczik, K., Gusenbauer, M., & Treffers, T. (2022). The influence of incidental emotions on decision-making under risk and uncertainty: a systematic review and meta-analysis of experimental evidence. *Cognition and Emotion*, 36(6), 1054–1073. <https://doi.org/10.1080/02699931.2022.2099349>
- Baumgartner, H., Pieters, R., & Bagozzi, R. P. (2008). Future-oriented emotions: Conceptualization and behavioral effects. *European Journal of Social Psychology*, 38(4), 685–696. <https://doi.org/10.1002/ejsp.467>
- Bialowolski, P., & Weziak-Bialowolska, D. (2021). Good credit, bad credit: The differential role of the sources of debt in life satisfaction. *Journal of Consumer Affairs*, 55(3), 967–994. <https://doi.org/10.1111/joca.12388>
- Bialowolski, P., Weziak-Bialowolska, D., Lee, M. T., Chen, Y., VanderWeele, T. J., & McNeely, E. (2021). The role of financial conditions for physical and mental health. Evidence from a longitudinal survey and insurance claims data. *Social Science & Medicine*, 281, 114041. <https://doi.org/10.1016/j.socscimed.2021.114041>
- Carrera, P., Caballero, A., & Munoz, D. (2012). Future-oriented emotions in the prediction of binge-drinking intention and expectation: the role of anticipated and anticipatory emotions. *Scandinavian Journal of Psychology*, 53(3), 273–279. <https://doi.org/10.1111/j.1467-9450.2012.00948.x>
- Chen, Y., Chaudhary, S., & Li, C.-S. R. (2022). Shared and distinct neural activity during anticipation and outcome of win and loss: A meta-analysis of the monetary incentive delay task. *Neuroimage*, 264, 119764. <https://doi.org/10.1016/j.neuroimage.2022.119764>
- Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes*, 69(2), 117–132. <https://doi.org/10.1006/obhd.1996.2675>

- Dal, A., & Nisbet, E. C. (2022). To share or not to share? How emotional judgments drive online political expression in high-risk contexts. *Communication Research*, 49(3), 353–375. <https://doi.org/10.1177/0093650220950570>
- Delgado-García, J. B., Rodríguez-Escudero, A. I., & Martín-Cruz, N. (2012). Influence of affective traits on entrepreneur's goals and satisfaction. *Journal of Small Business Management*, 50(3), 408–428. <https://doi.org/10.1111/j.1540-627X.2012.00359.x>
- Ewe, S. Y., Gul, F. A., Lee, C. K. C., & Yang, C. Y. (2018). The role of regulatory focus and information in investment choice: some evidence using visual cues to frame regulatory focus. *Journal of Behavioral Finance*, 19(1), 89–100. <https://doi.org/10.1080/15427560.2017.1373283>
- Ferreira, M. B., de Almeida, F., Soro, J. C., Herter, M. M., Pinto, D. C., & Silva, C. S. (2021). On the relation between over-indebtedness and well-being: an analysis of the mechanisms influencing health, sleep, life satisfaction, and emotional well-being. *Frontiers in Psychology*, 12, 591875. <https://doi.org/10.3389/fpsyg.2021.591875>
- Florack, A., Keller, J., & Palcu, J. (2013). Regulatory focus in economic contexts. *Journal of Economic Psychology*, 38, 127–137. <https://doi.org/10.1016/j.joep.2013.06.001>
- Friedman, R. S., & Förster, J. (2000). The effects of approach and avoidance motor actions on the elements of creative insight. *Journal of Personality and Social Psychology*, 79(4), 477. <https://doi.org/10.1037/0022-3514.79.4.477>
- Gabbi, G., & Zanotti, G. (2019). Sex & the City. Are financial decisions driven by emotions? *Journal of Behavioral and Experimental Finance*, 21, 50–57. <https://doi.org/10.1016/j.jbef.2018.10.005>
- Gorman, C. A., Meriac, J. P., Overstreet, B. L., Apodaca, S., McIntyre, A. L., Park, P., & Godbey, J. N. (2012). A meta-analysis of the regulatory focus nomological network: Work-related antecedents and consequences. *Journal of Vocational Behavior*, 80(1), 160–172. <https://doi.org/10.1016/j.jvb.2011.07.005>
- Grable, J. E. (2000). Financial risk tolerance and additional factors that affect risk taking in everyday money matters. *Journal of Business and Psychology*, 14, 625–630. <https://doi.org/10.1023/A:1022994314982>
- Grimani, A., Yemiscigil, A., Wang, Q., Kirilov, G., Kudrna, L., & Vlaev, I. (2024). How do emotions respond to outcome values and influence choice? *Psychological Research*, 1–17. <https://doi.org/10.1007/s00426-024-02001-3>
- Hamstra, M. R. W., Bolderdijk, J. W., & Veldstra, J. L. (2011). Everyday risk taking as a function of regulatory focus. *Journal of Research in Personality*, 45(1), 134–137. <https://doi.org/10.1016/j.jrp.2010.11.017>
- Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In *Advances in experimental social psychology* (Vol. 30, pp. 1–46). Elsevier. [https://doi.org/10.1016/S0065-2601\(08\)60381-0](https://doi.org/10.1016/S0065-2601(08)60381-0)
- Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology*, 31(1), 3–23. <https://doi.org/10.1002/ejsp.27>
- Hinvest, N. S., Alsharman, M., Roell, M., & Fairchild, R. (2021). Do Emotions Benefit Investment Decisions?

- Anticipatory Emotion and Investment Decisions in Non-professional Investors. *Frontiers in Psychology*, 12, 705476. <https://doi.org/10.3389/fpsyg.2021.705476>
- Jiang, W., Chen, Y., & Zhang, Y. (2021). The Effect of Perceived Control on Behavioral Intention to Apply for Credit Cards Online: –Mediating role of perceived risk, moderating role of regulatory focus. *Proceedings of the 2021 12th International Conference on E-Business, Management and Economics*, 739–746. <https://doi.org/10.1145/3481127.3481200>
- Knutson, B., & Bossaerts, P. (2007). Neural antecedents of financial decisions. *Journal of Neuroscience*, 27(31), 8174–8177. <https://doi.org/10.1523/JNEUROSCI.1564-07.2007>
- Knutson, B., & Greer, S. M. (2008). Anticipatory affect: neural correlates and consequences for choice. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 363(1511), 3771–3786. <https://doi.org/10.1098/rstb.2008.0155>
- Kocher, M. G., Krawczyk, M., & van Winden, F. (2014). ‘Let me dream on!’ Anticipatory emotions and preference for timing in lotteries. *Journal of Economic Behavior & Organization*, 98, 29–40. <https://doi.org/10.1016/j.jebo.2013.12.006>
- Kusev, P., Purser, H., Heilman, R., Cooke, A. J., Van Schaik, P., Baranova, V., Martin, R., & Ayton, P. (2017). Understanding risky behavior: The influence of cognitive, emotional and hormonal factors on decision-making under risk. *Frontiers in Psychology*, 8, 102. <https://doi.org/10.3389/fpsyg.2017.00102>
- Lee, S. Y., Jung, S., Jung, H. Y., Choi, S. T., & Oh, S. (2019). Imagination matters: do consumers’ imagery processing and self-regulatory goals affect the persuasiveness of metaphor in advertising? *International Journal of Advertising*, 38(8), 1173–1201. <https://doi.org/10.1080/02650487.2019.1596445>
- Li, Z., Yan, C., Xie, W.-Z., Li, K., Zeng, Y.-W., Jin, Z., Cheung, E. F. C., & Chan, R. C. K. (2015). Anticipatory pleasure predicts effective connectivity in the mesolimbic system. *Frontiers in Behavioral Neuroscience*, 9, 217. <https://doi.org/10.3389/fnbeh.2015.00217>
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin*, 127(2), 267. <https://doi.org/10.1037//0033-2909.127.2.267>
- Loo, R. (2002). A caveat on using single-item versus multiple-item scales. *Journal of Managerial Psychology*, 17(1), 68–75. <https://doi.org/10.1108/02683940210415933>
- Marston, G., Banks, M., & Zhang, J. (2018). The role of human emotion in decisions about credit: policy and practice considerations. *Critical Policy Studies*, 12(4), 428–447. <https://doi.org/10.1080/19460171.2017.1323655>
- Oiknine, A. H., Pollard, K. A., Khooshabeh, P., & Files, B. T. (2021). Need for cognition is positively related to promotion focus and negatively related to prevention focus. *Frontiers in Psychology*, 12, 606847. <https://doi.org/10.3389/fpsyg.2021.606847>
- Pham, M. T., & Avnet, T. (2009). Contingent reliance on the affect heuristic as a function of regulatory focus. *Organizational Behavior and Human Decision Processes*, 108(2), 267–278. <https://doi.org/10.1016/j.obhdp.2008.10.001>
- Puteri, N. M. M., Supatmi, M. S., Kartikawati,

- R., Eko, B., Dea, A., Natih, N. N., Rahmadhani, P., & Hana, N. (2022). *Women, Risk, and Consumer Protection in Online Lending Platform in Indonesia: A Study on the Multiple Vulnerabilities of Women of Users and Its Impact to Gender-Based Violence*. Retrieved from <https://fisip.ui.ac.id/women-risks-and-consumer-protection-in-online-lending-platforms-in-indonesia-a-study-on-the-multiple-vulnerabilities-of-women-as-users-and-its-impact-to-gender-based-violence/>
- Rendall, S., Brooks, C., & Hillenbrand, C. (2021). The impacts of emotions and personality on borrowers' abilities to manage their debts. *International Review of Financial Analysis*, 74, 101703. <https://doi.org/10.1016/j.irfa.2021.101703>
- Sassenberg, K., Winter, K., Becker, D., Ditrich, L., Scholl, A., & Moskowitz, G. B. (2022). Flexibility mindsets: Reducing biases that result from spontaneous processing. *European Review of Social Psychology*, 33(1), 171–213. <https://doi.org/10.1080/10463283.2021.1959124>
- Sassenrath, C., Sassenberg, K., Ray, D. G., Scheiter, K., & Jarodzka, H. (2014). A motivational determinant of facial emotion recognition: Regulatory focus affects recognition of emotions in faces. *PLoS One*, 9(11), e112383. <https://doi.org/10.1371/journal.pone.0112383>
- Schlösser, T., Dunning, D., & Fetchenhauer, D. (2013). What a feeling: the role of immediate and anticipated emotions in risky decisions. *Journal of Behavioral Decision Making*, 26(1), 13–30. <https://doi.org/10.1002/bdm.757>
- Scholer, A. A., Zou, X., Fujita, K., Stroessner, S. J., & Higgins, E. T. (2010). When risk seeking becomes a motivational necessity. *Journal of Personality and Social Psychology*, 99(2), 215. <https://doi.org/10.1037/a0019715>
- Schonberg, T., Fox, C. R., & Poldrack, R. A. (2011). Mind the gap: bridging economic and naturalistic risk-taking with cognitive neuroscience. *Trends in Cognitive Sciences*, 15(1), 11–19. <https://doi.org/10.1016/j.tics.2010.10.002>
- Sekścińska, K., Maison, D. A., & Trzcińska, A. (2016). How people's motivational system and situational motivation influence their risky financial choices. *Frontiers in Psychology*, 7, 1360. <https://doi.org/10.3389/fpsyg.2016.01360>
- Sekścińska, K., & Rudzinska-Wojciechowska, J. (2020). Individual differences in Dark Triad Traits and risky financial choices. *Personality and Individual Differences*, 152, 109598. <https://doi.org/10.1016/j.paid.2019.109598>
- Sekścińska, K., Rudzinska-Wojciechowska, J., & Jaworska, D. (2021). Self-control and financial risk taking. *Journal of Economic Psychology*, 85, 102386. <https://doi.org/10.1016/j.joep.2021.102386>
- Setyowati, D. (2023, September 20). *Daftar Kasus Bunuh Diri Akibat Pinjol di Indonesia* [List of Suicide Cases due to Online Loans in Indonesia]. *Katadata.co.id*. Retrieved from <https://katadata.co.id/digital/fintech/650aa7316bbc7/daftar-kasus-bunuh-diri-akibat-pinjol-di-indonesia>
- 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>
- Turunen, E., & Hiilamo, H. (2014). Health effects of indebtedness: a systematic review. *BMC Public Health*, 14, 1–8. <https://doi.org/10.1186/1471-2458-14-489>
- Von Siebenthal, Z., Boucher, O., Lazzouni, L., Taylor, V., Martinu, K., Roy, M.,

- Rainville, P., Lepore, F., & Nguyen, D. K. (2020). Expected value and sensitivity to punishment modulate insular cortex activity during risky decision making. *Scientific Reports*, 10(1), 11920. <https://doi.org/10.1038/s41598-020-68644-5>
- Wang, X., Wang, P., Lu, J., Zhou, J., Li, G., & Garelik, S. (2022). Episodic future thinking and anticipatory emotions: Effects on delay discounting and preventive behaviors during COVID-19. *Applied Psychology: Health and Well-Being*, 14(3), 842–861. <https://doi.org/10.1111/aphw.12350>
- Wang, X., Zheng, Q., Wang, J., Gu, Y., & Li, J. (2020). Effects of regulatory focus and emotions on information preferences: the affect-as-information perspective. *Frontiers in Psychology*, 11, 1397. <https://doi.org/10.3389/fpsyg.2020.01397>
- Xiao, J. J., Chen, C., & Chen, F. (2014). Consumer financial capability and financial satisfaction. *Social Indicators Research*, 118, 415–432. <https://doi.org/10.1007/s11205-013-0414-8>
- Zhang, B., & Shou, Y. (2022). Immediate emotions and subjective stakes in risky decision-making under uncertainty. *Anxiety, Stress, & Coping*, 35(6), 649–661. <https://doi.org/10.1080/10615806.2021.1994143>