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Prevention Focus and Prior Investment Failure in Financial Decision Making

Abstract

This research demonstrates, across four experiments, that investors behave differently when a prior investment is perceived as a failure rather than as a loss. The research shows that individuals consistently prefer a conservative investment option in the condition of failure rather than a loss even though the risky option offers a chance to break even (Study 1 & 2). The same result was obtained even when the risky option offers a higher expected return (i.e. should be selected if the decision makers are rational) than the conservative option (Study 3). The tendency to be more risk-averse in the failure condition is due to the activation of situational prevention focus (Study 4). The research findings highlight the importance of understanding investors' perceptions of their prior negative investment decision outcomes since risk-seeking behavior and buying behavior could be different when a prior investment is perceived as a failure or as a loss.

Keywords: regulatory focus; financial decision making; risk-seeking behavior; failure; losses.

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Introduction

Imagine being informed recently that the investment using your hard-earned money from a year ago suffered a loss. How would you treat this negative outcome – as a loss or a failure? Some past studies treat failure and loss as similar and interchangeable concepts (e.g., Scholer & Higgins, 2013; Scholer et al., 2010). If failure and loss are similar and interchangeable, then the response to a current investment decision would be similar. Investments are usually made with one goal, which is to achieve financial gain. The question examined in this study is whether the information about the loss of a prior investment or the failure to achieve an investment goal would result in different subsequent decision making behavior? Traditional finance focuses on how people should behave, whereas behavioral finance examines how people actually behave in a financial setting. Being human, investors may react to their experience based on how they treat their prior outcome. Some people may treat a loss as just a loss, whereas some people may treat a loss as a failure, hence it is important to find out whether there is a difference in behavior after a loss and after a failure of a prior investment. Although past studies have documented risk-seeking behavior after a loss (e.g. Baker & Nofsinger, 2002; Bosman & Winden, n.d.; Thaler & Johnson, 1990), it is still unclear how the feeling of a failure in achieving an investment goal affects subsequent financial and non-financial decisions. This study uses regulatory focus theory to explain the possible difference between a failure and a loss in financial decision making. This study provides a better understanding on decision behavior after a failure in a prior investment. In addition, policymakers and investment advisers may get a better picture of how the presentation of investment results may affect risk-seeking behavior in subsequent financial decision making.

Past studies (e.g., Bosman & Winden, 2001; Lenard, Akhter, & Alam, 2003; Nofsinger, 2005) revealed that, after a loss, individuals may be more risk-averse and cautious in their subsequent decisions, especially when the amount at stake is large. Other studies (e.g., Thaler and Johnson, 1990), however, revealed that if individuals have a chance to break even (i.e., have a chance to eliminate the previous loss), they may become more open to taking risks. Mishra & Fiddick (2012) noted that decision makers may evaluate and choose an option that meets their minimum requirements when a decision scenario is framed as a loss. The meeting of a minimum requirement creates the normative rationale for a risky choice. Scholer, Zou, Fujita, Stroessner, & Higgins (2010) showed that individuals may apply different tactics (risk-seeking or risk-averse) under different situations. For instance, individuals view risk-seeking as necessary in the domain of a loss when they are prevention-focused and only a risky option offers a chance to break even. When making an investment choice, individuals evaluate the presented options in a more rational manner and choose the one that best fulfills their need. These findings imply that individuals use different tactics in different conditions after a loss.

In contrast, literature on failure suggest that individuals may have a more consistent response after experiencing failure. Past psychological studies on non-financial failure (e.g., Förster, Grant, Idson, & Higgins, 2001; Elliot & Harackiewicz, 1996) revealed that individuals tend to have lower expectation and become more conservative in a subsequent decision after receiving failure feedback. This is likely due to the adoption of an avoidance or vigilance strategy (Rothermund, 2003). After experiencing failure, individuals are likely to have an emotional response that affects their subsequent behavior (Higgins, Shah, & Friedman, 1997; Koopmann et al., 2019; Roseman, 2013). Roseman (2013) revealed that avoidance behavior would be activated

if a decision is viewed as motive-relevant (to achieve an investment goal, for instance), and the potential for failure is envisioned. As a result, decision makers would choose safer options or refrain from investing their money. A study on motivational consequences after a failure posited that failure would induce a feeling of risk aversion (Yang, Dedovic, & Zhang, 2010). A financial decision usually involves the possibility of gain and loss, namely an uncertainty. In such a condition, individuals with a failure experience would prefer a sure gain or the high possibility of a return for avoiding another possible failure (Zhang, Chen, Gao, Liu, & Liu, 2018). In addition, there is a possibility that a failure experience would influence an individual's self-motivation system and a preference to use a vigilant strategy in subsequent decision-making.

Among theories of individual's self-motivational system, the regulatory focus theory (Higgins, 1997) seems relevant to address the issue of this study. The theory suggests that promotion and prevention foci as the different self-regulatory motivations in goal pursuit. Promotion focus is associated with a sensitivity to gain and high achievement, whereas prevention focus is associated with a sensitivity to loss and safety concerns (Hodis, 2017). Recent literature on self-regulatory focus (e.g., Scholer & Higgins, 2013; Zou et al., 2014) highlights that individuals may have different hierarchical levels of self-regulation including strategic level and tactical level. When individuals are in the state of promotion (prevention) focus, they may adopt the approach (vigilant) strategy. However, individuals may also apply an approach or avoidance tactic to serve certain strategy in particular contexts (Scholer et al., 2010). Scholer et al. (2010) indicated that when individuals with high-prevention strength face losses and a risky option alone offers the possibility to break even, such individuals tend to prefer a risky choice, which is an approach tactic. This finding implies that individuals process information using their cognitive ability

when they read a loss-framed message (Mishra & Fiddick, 2012). However, a failure may induce momentary risk aversion that is linked to the individual's self-motivation system (Elliot & Sheldon, 1997; Zhang et al., 2018), meaning that a failure may influence an individual's behavior at the strategic level and not at the tactical level. Although this prediction may be reasonable, little research has been conducted to find out the impact of a failure as compared to a loss. The present study aims to find out whether a failure may activate the prevention system and induce an adoption of vigilant strategy.

Across the four studies, the present research demonstrates that a failure may induce risk aversion when making a subsequent investment decision even though the riskiest option offers a chance to eliminate the previous loss and create a break-even effect. This may be due to the activation of a prevention focus that induces a vigilant strategy in subsequent financial decision-making after a failure. The present study also suggests that individuals tend to behave in a more prevention-focused manner in unrelated consumer decisions after a failure as compared to a loss in their prior financial investment. The next section describes the theoretical framework and hypotheses developed for the present research.

Theoretical Framework and Hypotheses Development

A failure is defined as landing in an undesired end-state (or failing to get to a desired end-state) (Hoppe, 1976). It is experienced when performance does not reach a given reference point. A prior failure refers to the negative outcome from the prior investment that is caused by the failure in achieving the prior investment goal. Earlier studies suggested that failure feedback would lower an individual's expectations regarding the outcome of a subsequent similar decision and induce an avoidance motivation (Atkinson, 1964; Förster, Grant, Idson, & Higgins, 2001). Studies on failure

feedback (e.g., McCain, 1986; Zikmund-Fisher, 2004) posited that decision makers may eventually make decisions to reduce risk after a failure. In addition, Suhonen & Saastamoinen (2017) argue that the break-even effect does not necessarily indicate risk-seeking behavior, instead, a chance to break-even may result in more conservative behavior. Studies on motivational consequences after a failure also suggest that a failure may induce a feeling of risk-aversion (Crocker & Wolfe, 2001; Yang, Dedovic, & Zhang, 2010). There is no evidence that failure in achieving a prior investment goal will cause risk aversion in subsequent financial decision making, however, it is reasonable to believe that individuals may prefer a less risky option in a subsequent investment when they are presented with clear information that the loss in their prior investment is a failure, and this risk-averse behavior may occur even though the risky option offers the only chance to break even.

In comparing failure with loss, loss refers to a fact of losing something or someone of value or importance. A prior loss also refers to the negative outcome from the prior investment. A loss in a prior investment may indicate that some assets no longer belong to the owner. A loss can also indicate an outcome that is below the reference point (Scholer, Zou, Fujita, Stroessner, & Higgins, 2010). Past studies have suggested that individuals may act differently after a loss if there is a chance to break even (Huang & Chan, 2014; Thaler & Johnson, 1990). In addition, individuals may prefer a risky choice after a loss when they are in a state of prevention focus and only the risky option offers a chance to break even (Scholer et al., 2010). Based on the review of past literature, we predict that in a condition where only a risky option offers a chance to break even, more individuals will choose a conservative option after a failure than after a loss.

Hypothesis 1:

There is a preference for a more conservative option in a subsequent financial decision after a failure than after a loss.

Kahneman (2011, p. 363) suggested that a priming effect may occur when individuals are exposed to messages. Past research has also revealed that situational regulatory focus can be primed by exposing individuals to prevention/promotion messages that activate their prevention/promotion system (Ewe, Gul, Lee, & Yang, 2018; Zhou & Pham, 2004). In addition, a prevention-focused message is considered to be more persuasive when the risk involved in the decision is perceived as high (Lin, Chang, & Lin, 2012). As failure is associated with avoidance motivation (Lanaj, Chang, & Johnson, 2012), it is reasonable to believe that failure may activate an individual's prevention system and reduce risk-seeking behavior in subsequent financial decision-making. If individuals are prevention-focused after a failure, they should be more likely to prefer products with prevention-oriented features due to regulatory fit (Cesario & Higgins, 2008; Hong & Lee, 2008; Woltin & Yzerbyt, 2015). In contrast, individuals may still use their cognitive ability after a loss to process information about a subsequent decision scenario (Mishra & Fiddick, 2012), hence, the priming effect of the prevention focus may be reduced. Therefore, it is hypothesized that, after a failure, individuals tend to evaluate the alternatives in a subsequent decision in a more prevention-oriented manner, and that this pattern of behavior may not happen in a loss condition.

Hypothesis 2:

Individuals tend to prefer products with more prevention-focused features after a failure than after a loss.

Overview of the Research Studies

The research question was addressed in four experimental studies. Studies 1 and 3 focused on the investigation of the main effect of a failure with loss amount as compared to just a loss condition on subsequent financial decision-making. Study 2 provided additional information on the effect of a failure by comparing the effect of several failure conditions with loss and controlled conditions. Study 4 examined whether the activation of an individual's prevention system after a failure has a tendency to cause an individual to be more prevention-oriented than after a loss when making other unrelated decisions.

The data for the four studies were mainly collected from academics, administrative staff, and post-graduate and undergraduate students at five private universities in Malaysia. Pre-tests and pilot studies were performed to test the validity of the materials used in the studies and to ensure that each study's participants understood the content of the research questionnaire provided to them. Vignettes were used in each study to describe past investment scenarios. Manipulation checks were performed for all studies.

Study 1

One hundred and thirty participants participated in Study 1. Sixty-five were assigned to the failure condition group, and another sixty-five to the loss condition group. Slightly more females (60%) than males (40%) participated in this study, and the average age of all participants was 24 years. About 75% of participants were undergraduate students while the remainder were university academics, administrative staff, and other working adults.

This study employed a between-subjects design with two conditions, failure and loss. Participants were presented with a vignette describing their past investment. Those in the failure condition

group were asked to imagine that one year ago they had made an investment from their earned income of RM50,000 into a financial product, with the goal of achieving a return of RM5,000. After the vignette, the participants were informed that the investment result was available for them to view. The investment outcome was shown to the participants as “Total Return: - RM20,000” and “Goal Achieved: No.” Subsequently, the message, “You failed to achieve your investment goal,” was shown to the participants.

Participants in the loss condition group were asked to imagine that one year ago they had made an investment from their earned income of RM50,000 into a financial product. Thereafter, the same message provided to participants in the loss condition group informed these participants that their investment result was available for viewing, and the investment result was presented to them. The only difference between the messages provided to the participants in the two groups was that the information on investment goal and whether the goal has been achieved was presented to those in the failure condition group but not to those in the loss condition group. The latter participants were just informed that they had incurred a loss of RM20,000. After the investment result was shown, the message, “You lost money in your prior investment,” was provided to the participants in the loss condition group.

Following this, the participants in both groups were asked to make a subsequent financial decision. The message, “Now you are given an opportunity to invest your earned income of RM50,000 in a type of investment for a period of 1 year,” was provided to all participants. They were then asked to indicate, using a seven-point scale with values ranging from 1 (Option A) to 7 (Option B) (midpoint = 4), their intention to invest in a risky option (Option A) or a conservative option (Option B). Option A provided a 25% chance to achieve a return of RM30,000 and a 75% chance

of losing RM6,000, Option B provided a 75% chance of obtaining a return of RM5,000 and a 25% chance of losing RM3,000. Although the value of the expected return for each option was the same (RM3,000), the standard deviation indicating the riskiness of the options, varied across the options ($SD_A = 15,588$ vs. $SD_B = 3,464$). After making their decision, the participants were requested to provide their demographic details.

Results

A manipulation check was conducted to ensure that the investment outcome manipulation worked. The participants were asked to recall the result of their previous investment and to indicate the extent to which they agreed, on a five-point Likert scale with values ranging from 1 (strongly disagree) to 5 (strongly agree), that the amount lost in their previous investment was large. The results imply that most of the participants agreed that the previous loss amount was large ($M = 3.97$, $SD = 0.935$).

The participants were also asked to rate their perception of the riskiness of both investment options provided using an 11-point scale containing values ranging from 0 (risk-free) to 10 (very risky). The result was that participants perceived Option A as riskier than Options B ($M_{\text{option A}} = 7.27$, $SD = 1.574$; $M_{\text{option B}} = 3.31$, $SD = 1.604$; $p < .001$), indicating that the riskiness of the investment options was well interpreted based on both an objective measure of risk (their standard deviation), and on a subjective perception of riskiness. In addition, there was no significant difference in perceived riskiness between the two distinct investment outcome groups (M_F option A = 7.26 vs. M_L option A = 7.28, $p = .956$; M_F option B = 3.35 vs. M_L option B = 3.26, $p = .744$), indicating that the participants' perceived risk of each option did not depend on the investment outcome condition.

An ANOVA performed on the investment decision showed a significant difference in risk preference between participants in the failure and loss condition groups. After receiving the message of a failure, more failure condition group participants preferred the conservative option than those in the loss condition group ($M_F = 4.65$, $SD_F = 1.924$ vs $M_L = 3.92$, $SD_L = 2.079$, $F(1,128) = 4.236$, $p < 0.05$, partial $\eta^2 = 0.032$). This finding supports Hypothesis 1, that there is a preference for a more a conservative option in a subsequent financial decision after a failure than after a loss.

Discussion

The results indicate that individuals who experience a failure may tend to prefer a conservative option even though a risky option offers a chance to eliminate their previous loss. It is possible that a failure might induce a prevention concern that makes them less willing to take a risk in their subsequent decision-making. In contrast, the participants in the loss condition group may have been motivated in different way, with some (especially those with a chronic prevention focus) influenced by the break-even effect when a risky option offers a chance to eliminate their previous loss (Scholer et al., 2010). While this study focused on the effect of a failure with large loss amount, it is also crucial to know whether this conservative behavior exists only in the failure with loss amount condition, or individuals still behave in a more conservative manner in the event of a failure with no loss or failure with a gain. Study 2 aimed to address this question by comparing the effect of a failure involving a loss with other failure conditions involving (1) no gain/loss and (2) a gain. In addition, Study 2 also includes the loss condition and the control condition (without loss/failure).

Study 2

Two hundred and fifty participants took part in this study, with about 50 participants assigned to each of the five condition groups: failure with loss (50), failure with no gain/loss (50), failure with gain (44), loss (53), and a control group (53). More females (55.8%) than males (44.2%) participated in this study while the average age of all participants was 24 years. Participants were overwhelmingly undergraduate students (95.4%), while the remainder were working adults.

This study used a between-participants experimental design that included five conditions covering failure, loss, and control. The participants in both the failure and loss condition groups were asked to imagine that they had made an investment from their earned income of RM50,000 into a financial product one year ago, and their investment goal was to achieve a return of RM5,000. Participants in the failure with loss condition group were informed that their return was – RM40,000 and they had failed to achieve their investment goal. For the failure with no gain/loss, and failure with gain condition groups, the indicated returns were 0, and RM1,000 respectively, and participants were also informed that they had failed to achieve their goal. In the loss condition group, participants were informed that they had lost RM40,000 but there was no mention of whether they had failed to achieve their investment goal. Participants in the control condition group were not told anything about a past investment. Thereafter, the participants in all condition groups were told that they had an opportunity to invest their earned income of RM50,000 into a similar type of investment for 1 year, with a choice of two options. Option A (risky option) offered a 20% chance of a return of RM40,000 and an 80% chance of losing RM6,500. Option B (conservative option) offered a 75% chance of achieving a return of RM5,000 and a 25% chance of losing RM3,800. Although the expected value of the two options was the same (RM2,800), the standard deviation for Option A (18600) was higher than for Option B (3811). Participants were asked to indicate, by circling a number on the 1 (Option A) to 7 (Option B) (midpoint = 4) scale provided,

which investment option they preferred. Finally, they were asked to provide their demographic details.

Results

A manipulation check was conducted for the investment outcome and both manipulations were successful. The results of an ANOVA show that the mean score of investment intention among the participants in all condition groups differed significantly ($F(4, 245) = 6.888, p < 0.001$, partial $\eta^2 = 0.101$, observed power = 0.994). As shown in Figure 3, a comparison of investment intentions indicates that the participants in all failure condition groups had a greater intention to invest in the less risky investment option, compared to participants in the loss and control condition groups. In particular, the participants in the failure with loss condition group had the strongest preference for the less risky option compared to participants in all the other failure condition groups. A post hoc test was conducted to compare investment intention between the various condition groups. The results show the following:

- 1) The investment intention of participants in the failure with loss condition group was significantly different than that of participants in the loss condition group ($p < 0.001$) and the control condition group ($p < 0.01$).
- 2) The investment intention of participants in the failure with no loss/gain condition group was significantly different from that of participants in the loss condition group ($p < 0.05$), but not of those in the control condition group ($p = .203$).
- 3) The investment intention of participants in the failure with gain condition group was not significantly different from that of participants in both the loss condition group ($p = .144$) and the control condition group ($p = .581$).

The findings also show that although the loss amount in the failure with loss condition group and the loss condition group were the same (RM40,000), the intention to invest varied significantly between participants in these two condition groups. Hence, Hypothesis 1 is further supported.

Insert Figure 1 about here

Discussion

The result shows that the outcome of a failure is more likely to increase risk aversion than a loss. Between failure conditions, the impact of a failure with loss may be stronger than a failure with no gain/loss, and failure with a gain. This is consistent with the findings of other studies (e.g., Baker & Nofsinger, 2002; Bosman & Winden, 2001) that show that the magnitude of a negative outcome plays an important role in subsequent financial decision-making. Nevertheless, it is evident that individuals tend to be more conservative in their subsequent financial decision-making after a failure than after a loss in their prior investment. This suggests that the impact of a failure on subsequent financial decision-making may be different from that of a loss.

After reviewing the first two studies conducted, a gap remained to be addressed. Particularly, in Study 1, participants in the failure condition group were told about their investment goal of RM5,000 while participants in the loss condition group were not. Therefore, Option B in the subsequent financial decision, which offered a chance to obtain a return of RM5,000 might have looked more attractive to the participants in the failure condition group than to those in the loss condition group due to the provision of information about their investment goal. It was therefore unclear whether the difference between the results of the two condition groups was due to the activation of a prevention concern among participants in the failure condition group, or to the prior

exposure of participants in the failure condition group to the investment goal that influenced more in that group than in the loss condition group to choose the conservative option. Therefore, Study 3 was conducted to address this gap.

Study 3

One hundred and sixteen individuals participated in this study, with 56 assigned to the failure condition group, and 60 assigned to the loss condition group. More males (53.4%) than females (46.6%) participated in the study and the average age of all participants was 21.3 years. A high percentage of participants were undergraduate students (87.9%), while the remainder were young working adults.

This study used a procedure similar to that used in Study 1. They were told that they needed to imagine themselves in the following situation: “Suppose one year ago you made an investment from your earned income of RM50,000 into a financial product with the aim to get a return of RM5,000.” The participants were told to randomly pick a piece of paper from a box to find out their investment result. This was done to provide participants with the feeling that they had a hand in determining their investment result. In order to further stimulate a feeling of failure, the participants in the failure group were first given two highlighter markers. Thereafter, the participants were told that they could keep the two highlighters that they had been given if they successfully achieved their expected return. However, they had to return the highlighters if they failed to achieve their investment goal.

The participants were asked to open the paper and read out the result. In fact, the investment results for all participants were the same: Initial value: RM50,000; Current value: RM30,000; Total

return: - RM20,000; Goal Achieved: No. “You failed to achieve your investment goal.” After all participants viewed their investment result, they were asked to return their highlighters. The participants in the loss condition group were informed about their previous investment and the results in the following manner: “Suppose one year ago you made an investment from your earned income of RM50,000 into a financial product. Recently, you received the performance report for this investment and the outcome is shown as below: Initial value: RM50,000; Current value: RM30,000; Total return: - RM20,000. You made a loss in your investment.”

After receiving the results of their investments, participants in both the failure and loss condition groups were asked to provide an answer (stated in Malaysian Ringgit) to the following question: “If you have another chance to invest money (assuming RM50,000), how much money would you expect to gain?” Following this, the participants in both condition groups were asked to decide on the new investment, which was described thus: “Now you are given an opportunity to invest your earned income of RM50,000 in a type of investment for a period of 1 year.” The participants were asked to indicate, using a seven-point scale with values ranging from 1 (Option A) to 7 (Option B) (midpoint = 4), their intention to invest in a risky option (Option A) or a conservative option (Option B). Option A for this study is the same as Option A in Study 1 (i.e., a 25% chance to get a return of RM30,000 and a 75% chance of losing RM6,000). Option B offered a 90% chance to obtain a return of RM3,200 and a 10% chance to lose RM800. Unlike Study 1, this study used different expected returns for Options A and B; the expected return for Option A was RM3,000, whereas the expected return for Option B was RM2,800. After making their investment decision, the participants were requested to provide their demographic details.

Results

A manipulation check was conducted to ensure that the manipulation of the failure condition worked. The participants were asked to indicate, on an 11-point scale containing values ranging from 0 (not at all) to 10 (very serious), how serious they were about the failure experience presented to them. The mean score of the responses was 8.01 ($SD = 2.005$), indicating that most participants felt serious about the failure experience. In addition, and similar to Study 1, the participants were also asked to rate, on the same scale used in Study 1, their perception of the riskiness of the two investment options. The result showed that the participants perceived Option A as riskier than Option B ($M_{\text{option A}} = 6.97$, $SD = 1.899$; $M_{\text{option B}} = 2.66$, $SD = 2.110$; $p < .001$).

An ANOVA performed on the investment decision showed a significant difference in intention to invest between participants in the failure and loss condition groups ($F(1, 114) = 8.111$, $p < 0.01$, partial $\eta^2 = 0.066$, observed power = 0.806). A greater proportion of participants in the failure condition group preferred the conservative option than those in the loss condition group ($M_F = 4.78$ vs $M_L = 3.70$). This finding further supports Hypothesis 1, that there is a preference for a more conservative option in a subsequent financial decision after a failure than after a loss.

In addition, there was also a significant difference between the failure and loss condition groups in terms of the amount that participants expected to gain from their subsequent financial investment ($M_F = 24,375.00$, vs $M_L = 39,817.83$, $F(1, 114) = 4.730$; $p < 0.05$; partial $\eta^2 = 0.040$). This indicates that the amount that participants expected to gain with their subsequent investment was smaller after they had experienced a failure with loss than after they had experienced just a loss.

Discussion

The findings provide more evidence that a failure in a prior investment may induce risk-aversion in a subsequent investment. This study addressed the gap in Study 1 in terms of the amount of potential return presented in Option B. Option B in this study offered a chance of achieving a return but the amount was below RM5,000, which was the investment goal presented in the failure condition. In addition, the expected return of Option B was lower than that of Option A. According to the normative theory of finance, if the participants were rational enough, more should have chosen Option A than Option B because the former offered a higher expected value. However, in this study, a greater proportion of participants in the failure condition group than in the loss condition group chose the conservative option with a lower expected value, while the mean score of their intention to invest was significantly higher than the midpoint ($M_F = 4.78$ vs midpoint = 4, $p < 0.01$).

In contrast, the participants in the loss condition group were not so risk-averse; the mean score of their intention to invest was closer to the midpoint but on the side of the risky option instead of the conservative option ($M_L = 3.70$ vs midpoint = 4; $p = 0.268$). This finding implies that the responses of individuals after a failure could be different from those after a loss. There is a need to explore whether the activation of an individual's prevention system only occurs after a failure condition and not a loss condition. As a result, Study 4 was conducted to compare the responses of individuals that experienced a previous failure with loss or just a loss with respect to subsequent unrelated consumer decisions (i.e., car purchase intention, apartment rental intention, toothpaste evaluation, and grape juice preference).

Study 4

Seventy-nine individuals participated in Study 4. Thirty-eight were assigned to the failure condition group and forty-one to the loss condition group. Overall, males (53.2%) were slightly more represented than females (46.8%), and the average age of all participants was 23.29 years. The participants were mainly university students (87.4%), while the remainder were working adults (12.6%).

This study followed the procedure used in Zhou & Pham's (2004) study to test whether an activation of situational regulatory focus after a failure affects subsequent unrelated decisions. Two conditions (failure and loss) were compared in this study. The manipulated condition used a between-subjects design, while the regulatory focus of product features and consumer products used a within-subjects design.

At the beginning of the experiment, participants in the failure condition group were asked to take 10 minutes to think about a previous failure experience in their life and to write a paragraph about it on a piece of paper. Thereafter, the participants were presented with the following hypothetical past investment scenario: "Suppose one year ago you made an investment from your earned income of RM50,000 into a financial product, and your investment goal was to get a return of RM5,000 from this investment. Recently, you received the performance report of this investment and the outcome is shown as below. Analysis of your return: Initial value: RM50,000; Current value: RM40,000; Total return: - RM10,000; Goal Achieved: No. You failed to achieve your investment goal." The participants in the loss condition group were not told about a description of their past investment goal and whether they had achieved it. The investment result presented to the participants in the loss condition group was the same as that provided to those in the failure condition group. After the presentation of the investment result to participants in the loss condition

group, they received the message, “You made a loss in your investment.” Following the presentation of the past investment scenario, the participants were asked to imagine that after hearing about their failure or loss they were now considering buying a car for themselves, renting an apartment for themselves, and choosing a preferred toothpaste and grape juice.

The first decision scenario, there are two models of car with similar price and size presented for the participants’ consideration. Six features were presented for each model, one model with more promotion-oriented features and another with more prevention-oriented features, as shown in Table 1.

Insert Table 1 about here

The participants were then asked to answer three questions. The first two questions were designed to check the manipulation of promotion-focused and prevention-focused features. For the first question, participants were asked to indicate on a scale of 1 (Model X) to 7 (Model Y) (midpoint = 4) which model looked more luxurious. For the second question, participants were asked to indicate, using the same scale, which model looked safer. The third question measured the dependent variable (the magnitude of the intention to purchase either Model X or Model Y) and participants were asked to indicate, on a scale of 1 (Model X) to 7 (Model Y) (midpoint=4), the strength of their intention to purchase either of the models.

For the second decision, the participants were presented with a list of six features for each of the two apartments (see Table 2).

Insert Table 2 about here

Like the first decision, the participants were asked to answer three questions. The first two questions were manipulation check questions to determine whether the participants were able to

view the promotion-focused apartment as more luxurious and the prevention-focused apartment as safer. For the third question, the participants were asked to indicate, on a scale of 1 (Apartment A) to 7 (Apartment B) (midpoint = 4), whether they would prefer to rent Apartment A or B.

For the third decision, the participants were presented with three features for each of two brands of toothpaste. Toothpaste Brand R was described as being able to whiten teeth, freshen breath, and give the user a brighter smile (all are promotion-focused features), whereas toothpaste Brand S was described as being able to prevent cavities, prevent gum disease, and prevent plaque build-up (all are prevention-focused features). Thereafter, the participants were asked to answer two questions for the manipulation check and one question to measure their preference. In particular, the participants were asked to indicate on a scale of 1 (Brand R) to 7 (Brand S) (midpoint = 4) which brand of toothpaste makes their teeth look more attractive, and which brand of toothpaste gives better protection. Following this, the participants were requested to indicate, on a scale of 1 (Brand R) to 7 (Brand S) (midpoint = 4), whether they preferred Brand R or S.

In the last decision, two brands of grape juice were provided. Grape juice Brand T was described as being rich in vitamin C and iron, thus promoting high energy (all are promotion-focused features), whereas grape juice Brand U was described as being rich in antioxidants, thus reducing the risk of cancer and heart disease (all are prevention-focused features). The participants were asked to indicate, on a scale of 1 (Brand T) to 7 (Brand U) (midpoint = 4), their preferred grape juice. After making the four decisions, the participants were asked to provide their demographic information by responding to the remaining questions on the study questionnaire.

Results

A manipulation check on the features of product revealed that the options with more promotion features are viewed as more luxurious or makes the teeth look more attractive, and the options with more prevention features are viewed as safer or higher protection.

The results of a MANOVA revealed a significant difference between the responses of participants in the failure and loss condition groups regarding the four decisions (Wilks' Lambda = 0.801, $F(4, 74) = 4.598$; $p < .01$; partial $\eta^2 = 0.199$). A further analysis of the decisions for each task was conducted using ANOVA. Although the participants in the failure condition group preferred more prevention-focused products, a significant difference in the responses between participants in the two condition groups was only found for the first two tasks, the car purchase intention ($M_F = 5.95$, $SD_F = 1.293$ vs $M_L = 4.24$, $SD_L = 2.119$; $F(1, 77) = 18.250$, $p < .001$), and the apartment rental intention ($M_F = 5.11$, $SD_F = 1.641$ vs $M_L = 4.07$, $SD_L = 2.138$; $F(1, 77) = 5.729$, $p < .05$). No significant difference was found between the responses of the participants in the two condition groups with respect to selecting a preferred toothpaste ($M_F = 5.45$, $SD_F = 1.427$ vs $M_L = 5.32$, $SD_L = 1.665$; $F(1, 77) = .138$, $p = .711$) and a preferred grape juice ($M_F = 5$, $SD_F = 1.973$ vs $M_L = 5.22$, $SD_L = 1.864$; $F(1, 77) = .259$, $p = .613$).

The results suggest that a failure may trigger an individual's prevention system and individuals behave in a more prevention-focused manner than those in the loss condition group, especially in the decision contexts involving higher amounts of money (i.e. task 1 and 2). As a result, Hypothesis 2 is supported.

Discussion

The findings from this study support the proposition that when an investment outcome is perceived as a failure, the prevention system is activated and the individual becomes more prone to prevention-oriented behavior in subsequent consumer-oriented decisions. However, such activation might not occur in a loss condition for consumer-oriented decisions that require more cognitive effort (e.g., car purchase and apartment rental decisions).

General Discussion and Implications

While previous studies treated loss and failure as being the same, and hence there should be no difference in the subsequent behavior, the present research suggests that there could be a difference in behavior after a failure rather than a loss. When individuals are informed with a clear message that they have failed to achieve their investment goal in the prior investment, they tend to be more conservative than after a loss when making a subsequent financial decision. They are also more prevention focused in non-financial decisions, especially for the decisions that involve larger amounts of money.

Across the four studies conducted, a failure with loss amount in a prior investment induced a stronger preference for conservative options as compared to just a loss condition (Studies 1, 2 and 3) due to the activation of a situational prevention system (Study 4). Although a failure with no gain/loss has less of an effect on risk aversion compared to a failure with a loss, it still induces a higher preference for a conservative option than a loss condition (Study 2).

The findings of this research suggest that after a failure, individuals may prefer a vigilant strategy in their subsequent decision for both financial and non-financial decision contexts. The activation of a prevention concern may motivate them to avoid choices that they might regret later. This

behavior is quite different from the behavior after a prior loss, where individuals may evaluate the options associated with a financial decision and become more risk-seeking, as needed. In addition, our study adds to the literature by providing evidence that a failure may affect subsequent decisions when unrelated consumer products are associated with regulatory focus. After a failure, individuals may prefer products with more prevention-focused features. In contrast, individuals may not behave so after a loss, especially when decisions need more cognitive effort during the product evaluation stage. A prior loss might only influence individuals to be more prevention-focused in their routine purchase decisions regarding items such as toothpaste and grape juice. After a loss, when there is a need for more cognitive effort to make decisions involving a financial investment, car purchase, and apartment rental, individuals may adopt either approach or avoidance tactics, depending on the situation they are facing.

Although our research did not delve into the meaning of failure and loss, it is evident from the results that when a prior loss is interpreted as a failure, the perception and behavior of decision makers may be different from the situation when a prior loss is interpreted as just a loss. The unwillingness to take risks suggests that individuals may take failure more personally than loss. In general, the present research highlights an essential consideration when conducting research on financial decision-making: future investigation on the impact of prior outcomes should treat failure and loss as different constructs. Specifically, it is important to clarify the stimuli used in any study that involves loss. Respondents need to be informed whether the loss is linked to the attainment of their prior goal, or to their expectation. If the loss is linked to the attainment of a prior goal, then it should be clearly informed as a failure rather than a loss.

The present research has several practical implications. There is a need to note that not every investor treats a negative investment outcome as a failure. If an individual treats a prior loss amount as just a loss, they may evaluate subsequent decision alternatives in a more rational manner and choose as needed to satisfy a specific situation. However, if they treat a prior negative investment outcome as a failure, then they may act in a more vigilant manner in their subsequent financial decision-making. The implication for financial planners and personal financial consultants is that they need to be more sensitive to the recent experiences of their clients when recommending financial investment plans to them. Marketers of consumer products who may be aware of recent failures of their customers might consider recommending products that are more associated with their customers' state of regulatory focus, to meet their needs at that moment. Alternatively, they might use some stimuli to activate a temporary promotion concern so that their customers may be more open to choices that involve higher potential growth or more benefits.

On the other hand, consumers also need to be aware of the effect of a failure on their subsequent buying behavior. For instance, knowing that they may have a tendency to be more prevention-focused when purchasing products or services after experiencing a failure might help consumers make better or less hasty decisions after experiencing a failure. They should consider alternatives and evaluate them in a more comprehensive manner to avoid loss. Another approach they can consider is to seek advice from other individuals and then evaluate their opinions before making a final decision. The process of evaluating alternatives and opinions helps to reduce the bias towards risk aversion and prevention focus in subsequent decision-making.

Limitations and Future Research

Our contribution is limited by our objective and the research question that we intended to address. Even though experimental studies are generally not conducted to establish external validity, the current research is still subject to several limitations. First, this research used hypothetical situations and self-reported responses. We do not know whether individuals will be more or less risk-taking in efforts to recover their losses in an actual investment situation. This limitation generally applies to studies involving experiments with hypothetical examples. Second, the findings on the effect of failure may be subject to the amount of money involved, as the effect of failure with a large loss is stronger than the effect of failure with gain. Furthermore, the difference in risk preference between failure and loss was observed in a scenario where only a risky option offers a chance to break even. More empirical studies can be performed to investigate the difference between failure and loss in different scenarios to enhance the understanding of how individuals interpret and react in these two conditions. Further investigation can also be conducted to examine whether a failure influences the adoption of vigilant strategy at a strategic level whereas a loss influences the adoption of approach or vigilant tactics at the tactical level of the hierarchical levels of self-regulation.

Overall, the present research provides empirical evidence that a failure may activate an individual's prevention system and induce risk aversion in subsequent financial and non-financial decision contexts. Besides the significant difference between a failure and a loss found by this research, there is still much left to explore in terms of the interpretation of the two concepts and their influence in many other areas of consumer decision-making.

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Table 1: The Features of Car Models X and Y

Model	Description of the Features
Model X	<p><i>This car comes with:</i></p> <ul style="list-style-type: none"> • A luxurious, roomy interior. (1) • A premium sound system with DVD player. (1) • Soft leather seats. (1) • A powerful engine for better performance. (1) • Protective dual front airbags. (2) • A wide variety of colors available. (3)
Model Y	<p><i>This car comes with:</i></p> <ul style="list-style-type: none"> • Protective dual front airbags. (2) • Seat belt pre-tensioners [to pull the bodies of the car passengers firmly into their seats to maximize the protection benefits of the airbags]. (2) • A strong body structure for better protection. (2) • An anti-lock braking system [to avoid uncontrolled skidding]. (2) • Soft leather seats. (1) • A wide variety of colors available. (3)
Note:	<p>(1) = <i>promotion-focused feature</i> (2) = <i>prevention-focused feature</i> (3) = <i>neutral feature</i></p>

Table 2: The Features of Apartments A and B

Apartment	Description of the Features
A	<ul style="list-style-type: none"> • The apartment has elegant molding around the ceilings and on the walls. (1) • The apartment has a grand and spacious balcony. (1) • There is a glorious indoor swimming pool for residents. (1) • There is a deluxe gymnasium in the building. (1) • The building is in a safe, family neighborhood. (2) • The apartment is in an eight-storey building. (3)
B	<ul style="list-style-type: none"> • The apartment has reliable smoke detectors installed in all hallways and rooms. (2) • There are secure, solid-steel safety locks on the front door. (2) • The car park in the building is equipped with CCTVs that are connected directly to the nearby police station. (2) • The building has 24-hour security monitoring. (2) • The apartment offers majestic views of the city. (1) • A cable-TV hook up is available in the apartment. (3)
Note:	<p>(1) = <i>promotion-focused feature</i> (2) = <i>prevention-focused feature</i> (3) = <i>neutral feature</i></p>

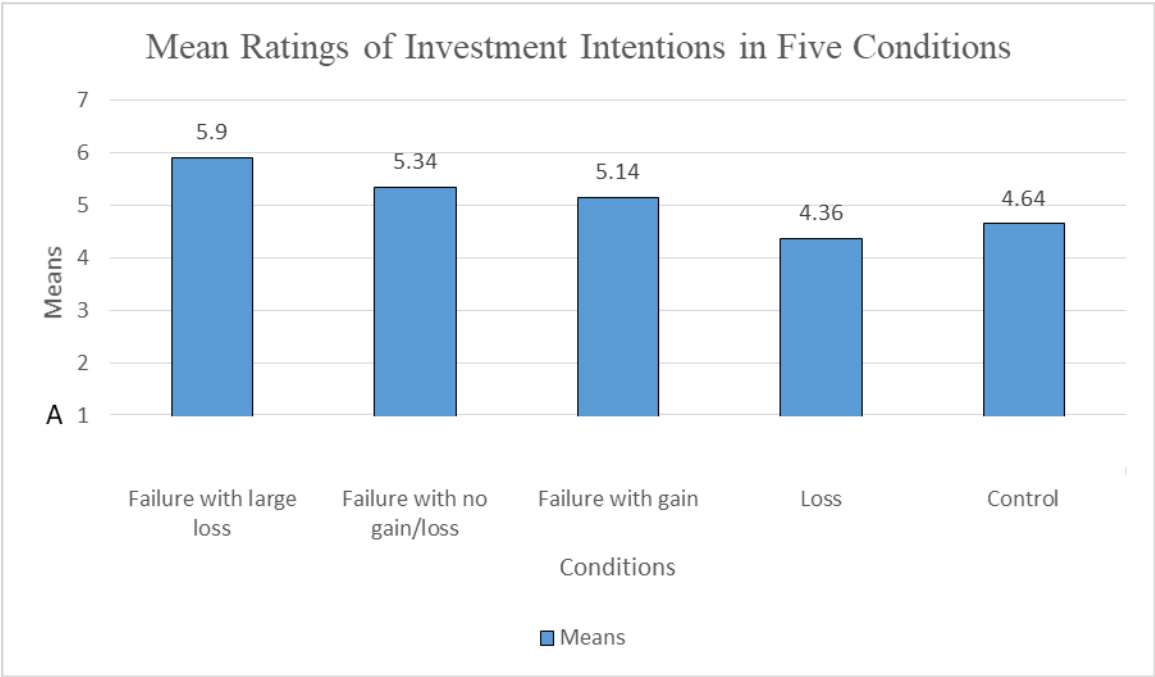


Figure 1: Mean ratings of investment intentions in five conditions (Study 2)