



# Pre- and Post-Action Confidence in Uncertainty

## Optimal Timing for Purchasing Product Warranty

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### STUDY 1

#### Method

This study was 2 (Timing of purchasing warranty: before vs. after) x 2 (Scenarios: 2 scenarios out of 6 scenarios) mixed-design. We provided participants (N = 346, 65% male,  $M_{age} = 20.55$ ) with several daily scenarios (e.g., purchasing a sofa, buying a new camera, renting an apartment, reserving a hotel, buying a parking permit, or choosing a restaurant menu). Each scenario had two conditions (before and after) and the participants saw two of these six scenarios either before or after the condition. We measured the likelihood of purchase warranty according to a 7-point scale (1 = extremely unlikely, 7 = extremely likely).

#### Results

Across all scenarios, individuals were more likely to purchase warranty in the before condition than the after condition ( $p < .001$ ). This tendency indicates that individuals take fewer risks because they become risk-averse in the before condition.

### STUDY 2

#### Method

We offered participants (N = 123, 51.2% male,  $M_{age} = 20.84$ ) a die-rolling task. The design was one-way between-subjects as follows: Timing of purchasing insurance (before vs. after). We placed three poker chips on each participant's desk and notified them that we were going to use the poker chips to play a game. The participants were then told that they would lose a certain amount of chips based on how they performed in the game: they would either lose one, two, or all three chips. In the before condition, the participants were given the option to buy insurance in order to prevent the potential loss of their chips before they rolled the die. In the after condition, this option was made available to the participants only after they rolled the die.

#### Results

Individuals are more likely to purchase insurance in the before condition than the after condition ( $p = .025$ ). When loss is expected from their action in an uncertain situation, individuals become risk-averse before taking action.

Die-rolling task in before condition

### ABSTRACT

We assessed whether individuals are more risk-averse prior to action than post-action in situations where outcomes are uncertain. This tendency was stronger when individuals expected to experience loss rather than gain as the outcome of their actions. We demonstrated this decisional distortion in hypothetical scenarios (Study 1) and behavioral measures (Studies 2 and 3). We showed that people focus more on omission errors prior to action than post-action which, in turn, explains their level of confidence (Study 4). This research has theoretical and practical implications for understanding how and why our confidence in action changes in uncertain situations.

### BACKGROUND

- Anticipated regret influences individuals' behavior (Tochkov, 2009; Zeelenberg et al., 1996). For example, anticipated counterfactual regret makes individuals purchase insurance (Hetts et al., 2000).
- We investigate whether a contextual factor such as **the timing of purchase insurance** (Before vs. After taking the main action) influences the extent to which individuals attend to anticipated regret (the regret of failure to purchase insurance).
- We expect such regret will be intensive in the loss condition since losses loom larger than gains (Kahneman & Tversky, 1979).

H1. Individuals are less confident about their action (therefore, more likely to purchase insurance) before the action is taken (pre-action) when a loss is expected in an uncertain situation.

H2. Individuals attend to omission errors before taking action than after taking action.

### CONCLUSION

- People's decisional confidence when faced with uncertainty is lower before taking action than after taking action when loss is expected.
- Anticipated regret, specifically omission errors that occur before taking action, lowers people's confidence in their actions.

#### References

Hetts, J. J., Boninger, D. S., Armor, D. A., Gleicher, F., & Nathanson, A. (2000). The influence of anticipated counterfactual regret on behavior. *Psychology & Marketing*, 17(4), 345-368.

Kahneman, D., & Tversky A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 263-391.

Tochkov, K. (2009). The effects of anticipated regret on risk preferences of social and problem gamblers. *Judgment and Decision Making*, 4(3), 227.

Zeelenberg, M., Beattie, J., Van der Pligt, J., & De Vries, N. K. (1996). Consequences of regret aversion: Effects of expected feedback on risky decision making. *Organizational Behavior and Human Decision Processes*, 65(2), 148-158.

### STUDY 3

#### Method

Similar to Study 2, we offered participants (N = 220, 57.7% male,  $M_{age} = 20.99$ ) a die-rolling task. The study design was 2 (Timing of purchasing insurance: before vs. after) x 2 (Valence: loss vs. gain) between-subjects. The loss condition was the same as Study 2. For the gain condition, participants were told that they would either obtain all three chips in total, or gain one, two, or three chips (in addition to the first three). Therefore, the insurance description was also changed accordingly, such that the insurance could prevent the participant from not gaining any additional chips. The remainder of Study 3 was the same as that of Study 2.

#### Results

There was a significant interaction between the timing of purchasing insurance and valence ( $p = .053$ ). Consistent with Study 2, in the loss condition, individuals were more likely to purchase insurance in the before condition than the after condition ( $p = .005$ ). However, in the gain condition, there was no such difference ( $p = .789$ ). As such, individuals' decisional confidence changes only when loss is expected but not when gain is expected under uncertain situations.

### STUDY 4

#### Method

The design of this study was one-way between subjects (Before vs. After). After the participants (N = 183, 57.4% male,  $M_{age} = 20.93$ ) read information about share values, we asked if they wanted to sell their shares at current value or wait to see the changed value. In the before condition, we showed 10 comments from investors consisting of 5 omission errors and 5 commission errors before participants made their decision about selling their shares. In the after condition, participants saw the comments after making their decision. Finally, we provided a sentence recognition task by showing 10 true statements that participants saw and 10 foil statements that participants did not see previously. Participants were asked to indicate whether they saw each comment previously. We measured the errors that occurred in these answers.

#### Results

For true statements, individuals made fewer errors for omission statements compared to commission statements that occurred before their decision.

