

# Mixed Up! Affective States Elicited by Investment Gambles

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## Abstract

**An investment gamble (or, mixed gamble) is one requiring an initial investment and with the potential for an ambiguous amount of either gain or loss.**

We explore investment gambles and affective states of fear, hope, optimism and pessimism. In an investment gamble, we found that the amount of potential loss had an effect on affective state. In particular, faced with an increase in potential loss, the proportion of subjects reporting fear and pessimism increases while that reporting hope and optimism decreases. Prior research suggests that these states are associated with a measure of cognitive bias, specifically ambiguity aversion. Together with our finding, this implies a psychometric approach might be developed to study attitudes towards ambiguous investment gambles.

## Introduction

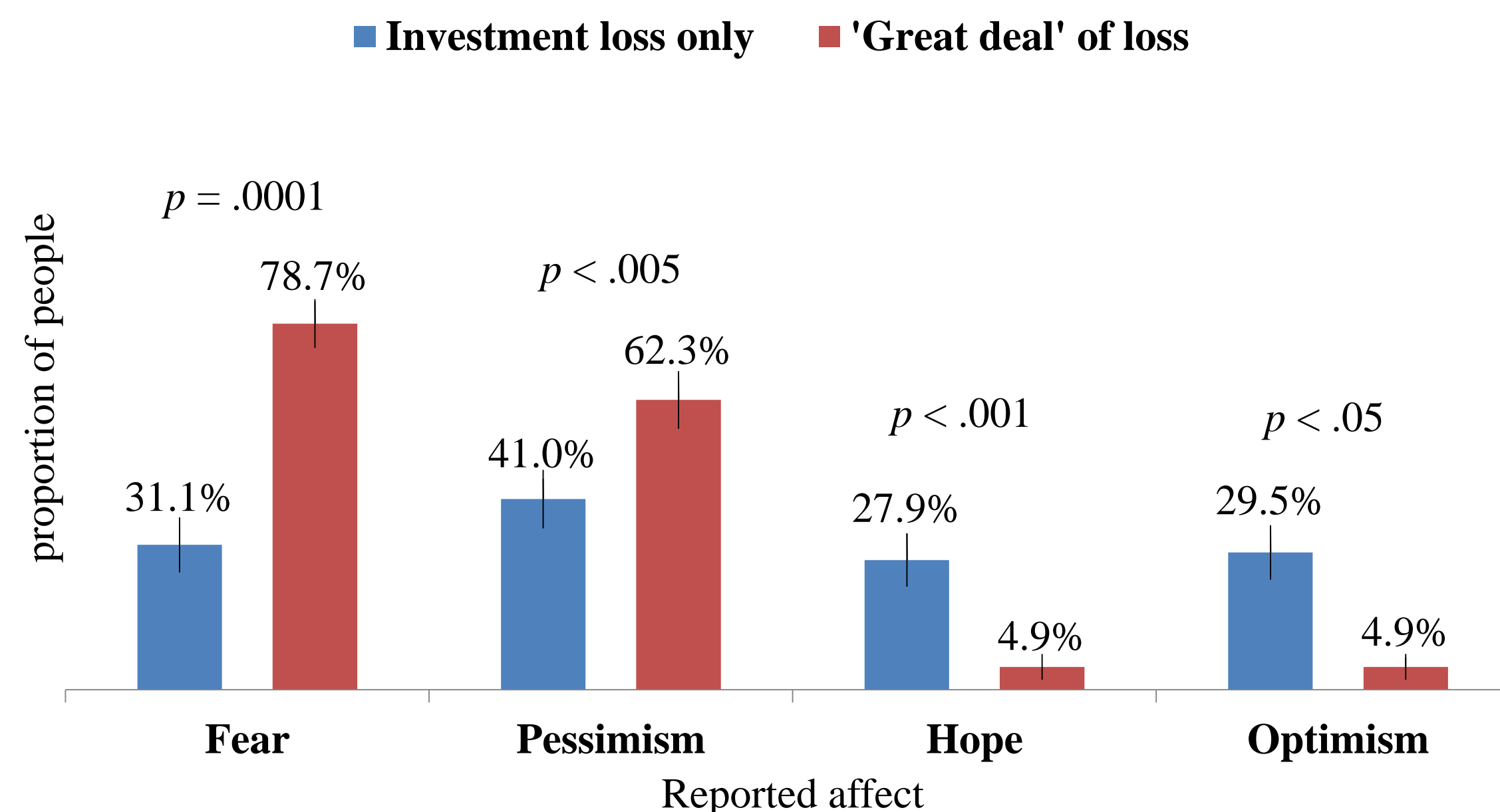
**Do people's affective states of hope, fear, optimism and pessimism change with amount of potential loss from an investment gamble?**

Prior work suggests that states of hope, fear, optimism (potential for satisfaction) and pessimism (potential for dissatisfaction) are invoked during risky decision-making. These descriptive labels of affect have also been used to describe the parameters of the ' $\alpha$ -Maximin Expected Utility function' ( $\alpha$ -MEU) of Ghirardato et al. (2004), which has been widely employed to measure attitudes toward an ambiguous gamble given numerical aspects of the gamble (e.g., Schoemaker, 1989; Viscusi and Chesson, 1999; Gajdos et al, 2008).

## Methods

- **61 participants**
- **Condition 1:** possibility of investment loss only
- **Condition 2:** possibility of a 'great deal' of loss in addition to investment loss
- **Outcomes:** Choices from polarized pairs of affective states: **hope/fear**; potential for satisfaction (**optimism**)/potential for dissatisfaction (**pessimism**)

## Results



**With increased potential loss from an investment gamble, fear and pessimism increase and hope and optimism decrease.**

## Discussion

Faced with an increase in potential loss from an investment gamble, the proportion of subjects reporting fear and pessimism increases while that reporting hope and optimism decreases. Considering the  $\alpha$ -MEU in terms of these descriptive labels for affect, the parameters called hope and optimism place more weight on the "best outcome", suggesting ambiguity seeking, while those called fear and pessimism place more weight on the "worst outcome", suggesting ambiguity aversion.

**Does our finding suggest that people have greater ambiguity aversion with this increase in potential loss?**

Further research is planned to study this.

**Can states of hope, fear, optimism and pessimism be used to help characterize attitudes towards ambiguity?**

If so, this would imply that a psychometric method to characterize attitudes towards ambiguity might be developed. Unlike extant methods, this method would not require an accurate numerical description of the possible outcomes of the investment gamble.

## References

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