Put Your Money Where Your Mouth is: Feedback Reduces Overconfidence When Betting

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**BACKGROUND**

- On a daily basis, we are required to estimate our ability to accurately accomplish certain tasks. These estimations are greatly influenced by individual differences. These differences include narcissism, which is defined as the enhancement of oneself in a positive way, and risky behavior, which is defined in the present study as the willingness to place high bets on uncertain answers (Campbell, Goodie, & Foster, 2004).

- When determining our ability to be accurate in accomplishing specific tasks, we tend to show overconfidence, which is defined as the inconsistency between how well we think we performed and our actual performance (Fischhoff, Slovic, & Lichtenstein, 1977).

- Previous research suggests that people who are narcissistic are generally overconfident, higher in risk-taking, and are more likely to bet on their answers even when the accuracy of their answers is low (Campbell et al., 2004).

- When given feedback about the accuracy of the answer, people tend to lower their confidence ratings for future questions when notified that the question was incorrectly answered (Arkes et al., 1987).

**PRESENT RESEARCH**

- Participants who bet on the accuracy of their response to a set of general knowledge questions (GKQs) will be more overconfident than those who reported their confidence on the accuracy of their response to the set of GKQs.

- Participants who bet on the accuracy of their response to the GKQs will demonstrate greater overconfidence and will score higher on measures of risk taking and narcissism compared to participants who report their confidence on the accuracy of their response to the set of GKQs.

- Participants who do not receive feedback on their accuracy of their response to the GKQs will be more overconfident compared to participants who do receive feedback.

- There will be positive correlations between overconfidence, narcissism, and risk taking, especially for those who score high on narcissistic and risk taking behavior.

**METHOD**

**Participants**

- Condition 1: Betting with feedback, n= 25
- Condition 2: Betting with NO feedback, n= 25
- Condition 3: Confidence with feedback BEFORE, n = 25
- Condition 4: Confidence with feedback AFTER, n = 25
- Condition 5: Confidence with NO feedback, n = 25

- All participants were undergraduate students enrolled in an Introductory Psychology class.

**Procedure**

Participants were asked to complete several personality questionnaires and a series of general knowledge questions. Participants were divided into a confidence group and betting group. The betting group was required to place bets with virtual money to express their confidence in the accuracy of their answer. Participants were either awarded or docked the virtual money based on their accuracy. The confidence group rated their confidence from 0 to 100 in the accuracy of their answer to the set of general knowledge questions.

- Half of the participants received feedback about the accuracy of their answer, while the other half did not receive feedback.

**Personality and other Assessment Materials**

- General Knowledge Questions (GKQ):
  - What is the capital of New York? (Answer = Albany)

- Narcissistic Personality Inventory (NPI): assesses the participants’ level of narcissism
  - I am going to be a great person.

- Need for Achievement Scale: assesses the participants’ desire to reach high standards and make significant accomplishments
  - I tend to set very difficult goals for myself.

- Indicators of Problematic Gambling: assesses the participants’ problematic betting behavior

- Risk Averseness Scale: assesses the reluctance of participants to gamble on an uncertain outcome
  - To achieve something in life, one has to take risks.

**RESULTS**

- Data from 32 participants were deleted from the four conditions produced by condition (betting vs. confidence ratings) and feedback to meet an adequate criterion for performance and to equalize the size of the conditions to 25 in each.

- A 2 (condition: confidence rating or betting) x 2 (time of assessment compared with confidence rating or amount bet: beginning or ending) x 2 (feedback: given or not) x 2 (gender) mixed factor ANOVA was used as the initial statistical analysis and revealed a significant overall effect of condition on confidence and betting as related to proportion correct on the General Knowledge Test (calibration), $F (1,92) = 40.182, p < .0001, MSE = 1188.037, \eta^2 = .304$.

**DISCUSSION**

- There appears to be a relationship between gender and time of calibration ($p = .076$), although it is not strong enough to demonstrate significance. Those in the confidence condition are overconfident about their performance, decreasing in overconfidence from Time 1 (beginning assessment of confidence) to Time 2 for men, but increasing form Time 1 to Time 2 for women.

- Those in the betting condition are under-confident about their performance at both times of assessment, with only a slight change towards calibration for women at Time 2 for both confidence and betting conditions.

- Correlation analysis of the relationships between personality characteristics and condition were only significant for a relationship between need for achievement and ending betting in the betting condition. The only significant relationship for those in the confidence condition was between need for achievement and the beginning confidence rating.

- This study does not allow the conclusion that betting behavior is an indication of overconfidence in ability relative to actual performance (calibration) similar to the traditionally used confidence ratings.

- It seems more apparent that betting may modify the tendency to be overconfident – putting money “on the line,” even virtual money, combined with the expression of need for achievement in the form of winning at betting may produce a more realistic assessment of one’s actual ability.

**REFERENCES**