Predictions of Anxiety and Speech Performance in Social Anxiety
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Abstract
This study investigated the generalizability of the Match-Mismatch model of fear (Rachman, 1994) to anxiety-provoking social situations such as giving a speech, and its extension to performance ratings of negative behaviors. Participants (n=41) rated their anxiety and performance prior to, immediately following, and one week after giving a speech. Results revealed that about equal numbers of participants overpredicted and underpredicted their anxiety and performance. Overpredictors of anxiety decreased their subsequent predictions, whereas underpredictors did not show changes in their predictions. Correlational analyses revealed a strong relationship between tendencies to over- or underpredict anxiety and over- or underpredict performance, and a mild relationship between predictions of performance and adjustments on subsequent predictions. These findings are discussed in relation to the MM model and social anxiety phenomena.

Introduction
The Match-Mismatch (MM) model applies to discrepancies between predictions and reports of anxiety provided before and after exposure, and their consequences on subsequent predictions. According to the MM model (Rachman, 1994):

Overprediction Bias:
A Majority of people overpredict the amount of anxiety they will experience during fearful situations.
Asymmetrical Consequences:
Subsequent anxiety prediction decrease following overpredictions, increase following underpredictions, and remain stable following accurate predictions.

Previous support for the MM model with:
- Snake phobic participants (Rachman & Lopatka, 1986a, b).
- Claustrophobic participants (Rachman, Levitt, & Lopatka, 1988a).

The purpose of this study was to examine the generalizability of the MM model to a social anxiety task (speech), and whether the model’s propositions extend to predictions of negative behaviors.

Hypotheses
A Majority of participants will overpredict the amount of anxiety they experience during their speech.
Subsequent predictions of anxiety will decrease following overprediction, increase following underprediction, and remain the same following an accurate prediction of anxiety.
These patterns of anxiety predictions will extend to performance predictions.

Method
Participants:
41 undergraduate psychology students (36 females, age M=22.4, SD=4.6 years, range 19 to 37 years) from Concordia University.

Measures:
- Predictions of Anxiety and Performance (P1 & P2):
  - Anxiety: Subjective ratings on a 0 to 100 mm Visual Analogue Scale (VAS) where 0=no anxiety and 100=extreme anxiety.
  - Performance: Subjective ratings on a 0 to 100 mm Visual Analogue Scale (VAS) where 0=good performance and 100=poor performance.

- Report of Anxiety and Performance (R):
  - Anxiety: Subjective ratings of anxiety actually experienced on a 0 to 100 mm Visual Analogue Scale (VAS) where 0=good performance and 100=poor performance.
  - Performance: Subjective ratings of negative behaviors actually experienced on a 0 to 100 mm VAS.

Participants were classified as overpredictors when their initial prediction exceeded reported anxiety by 2 points on a VAS, as underpredictors when their reported anxiety was greater than their initial prediction by 2 points, and as accurate predictors when predicted and reported anxiety fell within this cut-off range.

Results
Changes in Predictions of Anxiety Over Time

Participants were classified as overpredictors when their initial prediction exceeded reported anxiety by 2 points on a VAS, as underpredictors when their reported anxiety was greater than their initial prediction by 2 points, and as accurate predictors when predicted and reported anxiety fell within this cut-off range.

No significant difference between the percentages of participants who overpredicted (n=16), underpredicted (n=17), and accurately predicted (n=8) their anxiety, χ²(2, N=41) = 3.56, n.s.

A 2 (Group: overpredictors vs. underpredictors) X 2 (Time: P1 vs. P2) repeated measures ANOVA was conducted on anxiety ratings:

- No main effect for Group F(1, 31) = 1.1, n.s., ρ² = .004
- A main effect for Time F(1, 31) = 6.32, p < .05, ρ² = .17, indicating that anxiety ratings significantly decreased from P1 to P2.
- A significant Group X Time interaction for anxiety ratings F(1, 31) = 10.51, p < .01, ρ² = .25, indicating that the changes over time varied by group.

Pairwise comparisons for group across P1 and P2:
- Underpredictors: no significant changes in anxiety ratings from P1 to P2, F(1, 17) = 2.3, n.s., ρ² = .09
- Overpredictors: anxiety ratings were significantly lower at P2 than at P1, F(1,16) = 16.08, p < .001, ρ² = .34

Discussion
There was no support for an overprediction bias on anxiety ratings.
While overpredictors adjusted their subsequent anxiety prediction downward, underpredictors did not adjust their subsequent anxiety predictions.
Participants showed parallel trends on anxiety and performance predictions.
The greater the discrepancy between expectations and actual experiences (both for anxiety & performance), the greater the adjustments on subsequent predictions.

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These results provide partial support for the generalizability of Rachman’s MM model (1994) to social anxiety conditions, and preliminary evidence for the extension of the model to performance ratings of negative behaviour.
The evidence for asymmetrical consequences for overpredictors but not underpredictors suggest that different mechanisms underlie adherence and/or modifications of estimations in over- and underpredictors of anxiety in social tasks.

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Future investigations should incorporate multiple exposures to social tasks with multiple sets of predictions and reports, and examine these findings using both clinical and non-clinical samples.

Implications: A better understanding of the nature of modifications/maintenance of predictions in social anxiety will help promote the development of theoretical and empirically supported treatments for this disorder.

References