

Uncertainty as an elicitor or modulator of emotion and associated psychophysiology

ABSTRACT:

Background

Uncertainty over the outcome of future events is common in everyday life. Despite the relevance of uncertainty in our day to day lives, very little is understood about how uncertainty elicits and/or modulates emotional states and associated bodily responses. To address this gap in the literature, the study used two experiments.

Aims

The aims of the study were to examine: (1) whether uncertainty is inherently aversive or whether uncertainty elicits a wider array of emotional states and associated bodily responses, and (2) whether uncertainty is a modulator (i.e. intensifies/dampens) of emotional states and associated bodily responses.

Method

The first experiment (n = 231) consisted of a survey. The second experiment (n = 79) used a novel experimental task to manipulate outcomes that varied in uncertainty and valence, whilst recording self-reported emotional states (i.e. emotion label selection, valence, and arousal), task performance (i.e. accuracy) and eyetracking (i.e. fixation count).

Results

For experiment 1, uncertainty in general and individual differences in intolerance of uncertainty was associated with evoking and modulating a variety of emotions. For experiment 2, uncertainty in combination with negative and positive outcomes, relative to neutral outcomes, was not related to greater subjective experiences of emotion, eyetracking (i.e. fixation count), or task performance (e.g. accuracy). However, uncertainty, regardless of the outcome, resulted in poorer task performance.

Conclusions

The findings from experiment 1 and 2 provide evidence that uncertainty is involved in eliciting and modulating a wide array of subjective emotional experiences, and to some extent can influence task performance.

Keywords

Uncertainty, Emotion, Task performance, Psychophysiology

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Published Work:

Morriss, J., Goh, K., Hirsch, C. R., & Dodd, H. (2023). Intolerance of uncertainty heightens negative emotional states and dampens positive emotional states. *Frontiers in Psychiatry, 14*, 1147970. doi: 10.3389/fpsy.2023.1147970

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