Does participant awareness impact the effect of Interpretation Bias Modification (IBM) on interpretation bias and anxiety?

By Flora Anderson

Introduction

Previous literature acknowledges that accessible, self-administered forms of therapy should be developed to tackle the current rise in anxiety. Interpretation Bias Modification is a relatively new cognitive therapy that seeks to improve mental health by reducing negative interpretation bias. It is acknowledged that IBM needs further development to become a credible tool for reducing anxiety. Based on suggestions from previous research (Beard, 2011), this study examines whether participant awareness affects IBM training's efficiency for reducing negative bias and anxiety. Level of participant awareness is determined by presence or absence of a training rationale. Data was empirically analysed to examine 5 separate hypotheses.

Hypotheses:
1) Anxiety scores and negative interpretation bias scores will be correlated.
2) Anxiety scores will be significantly lower after IBM training than before.
3) Negative interpretation bias scores will be significantly lower after IBM training than before.
4) The training will have a significantly greater effect on the anxiety scores of those who read a rationale before than for those who did not.
5) The training will have a significantly greater effect on the negative interpretation bias scores of those who read a rationale before than for those who did not.

Methods

84 participants aged between 17 and 80 years were assessed on anxiety (CALM score; Marris, Sladyk, St Pierre & Coverly Dey, 2017) and negative interpretation bias. Participants then completed 5 blocks of IBM training. Half the participants received a short rationale explaining the training, the other half did not. After training they were again assessed on anxiety and negative interpretation bias.

Results

1) A significant weak to moderate positive correlation between anxiety and negative interpretation bias scores (tau = 0.28, p = 0.006) was found.
2) Anxiety scores were significantly lower after training, (Mdn = 3.0) than before (Mdn = 6.0), p = .00008, r = -.49, with a moderate training effect size.
3) Negative bias scores were significantly lower after training, (Mdn = 15.5) than before (Mdn = 19.0), p < .00001, r = -.698, with a strong training effect size.
4) No significant difference was found between the anxiety scores of those in the rationale present condition and rationale absent condition (p > 0.05).
5) No significant difference was found between the negative interpretation bias scores of those in the rationale present condition and rationale absent condition (p > 0.05).
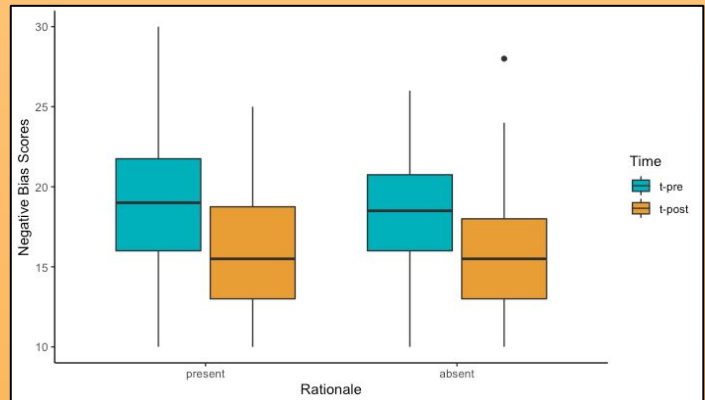

Figure 1: Changes in negative bias scores before and after training in both the rationale present and rationale absent conditions
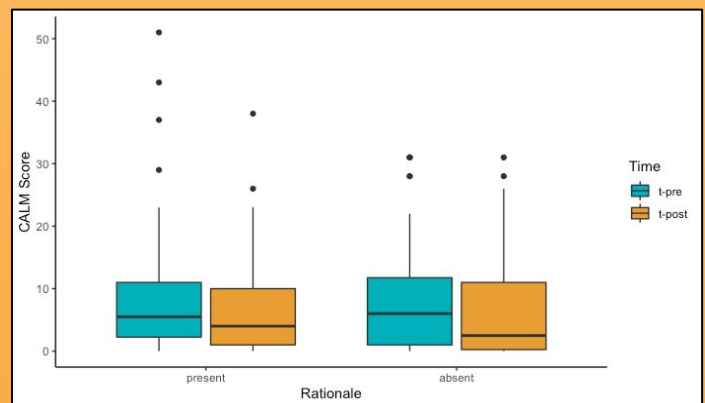

Figure 2: Changes in anxiety scores before and after training in both the rationale present and rationale absent conditions
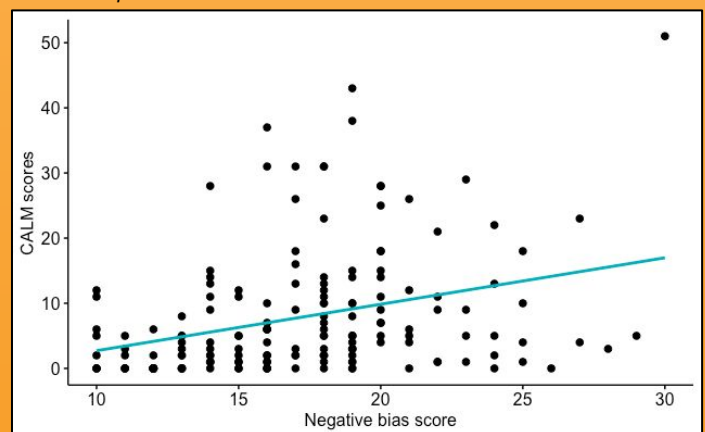

Figure 3: Correlation between anxiety and negative bias scores

Discussion

Results confirmed findings of previous research, that anxious individuals tend to interpret ambiguous situations more negatively than those who are less anxious (H1) and that both anxiety (H2) and negative bias (H3) levels can be significantly reduced after one session of IBM training. Results also found that participant awareness does not significantly alter the efficiency of IBM on anxiety (H4) or interpretation bias (H5). These results have implications for the development of IBM smartphone applications, as they suggest that more instruction does not improve results and as brevity is paramount (Torous et al., 2019), as little instruction as possible should be implemented to ensure user engagement.