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**Citation:** Clarke, C.S., Mackintosh, B. & Cooper, N. R. (2018). Two Session Cognitive Bias Modification Training; Exercise Interpretation Bias. Poster presented at the International Convention of Psychological Science, 23-25 March 2017, Vienna, Austria.

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# TWO SESSION COGNITIVE BIAS MODIFICATION TRAINING; EXERCISE INTERPRETATION BIAS

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## ABSTRACT

Cognitive bias modification is the direct manipulation of a target bias by extensive exposure to task contingencies that encourage predetermined patterns of processing selectivity<sup>1,2</sup>.

Forty-eight participants from a general population sample recruited for a two-part study investigating the effect of two sessions of exercise orientated Positive CBM-I Training, in comparison to a Neutral Pseudo Training condition.

Baseline, post session one and post session two self-report measures of Anxiety, Depression and Stress were collected. Measures of interpretation bias were collected at baseline and post session two, both with and without cognitive load.

Results suggest that for individuals undergoing two sessions of Positive CBM-I Training over a fortnight had significantly decreased Trait Anxiety scores, relative to the Pseudo Neutral Training condition.

The findings hold promise for the Cognitive Bias Modification paradigm for decreasing symptoms of Anxiety.

## STUDY AIMS

This study aims to investigate how cognitive interpretation biases could be trained and modified with cognitive bias modification training which is exercise orientated, to alleviate the symptoms of anxiety, depression, and stress related disorders.

*HYPOTHESIS ONE* Participants in the CBM-I training program will show a decrease in anxiety, stress and depression measures after session one of training and a further decrease following the second training, whilst the Pseudo Training Group will show no decrease.

*HYPOTHESIS TWO* Participants in the CBM-I Training will show a decrease in negative cognitive interpretation biases (SST) when cognitively loaded, and in the non-cognitively loaded task. Participants in the Pseudo Training Group will show no difference between sessions, or a difference between cognitively loaded/non-loaded tasks.

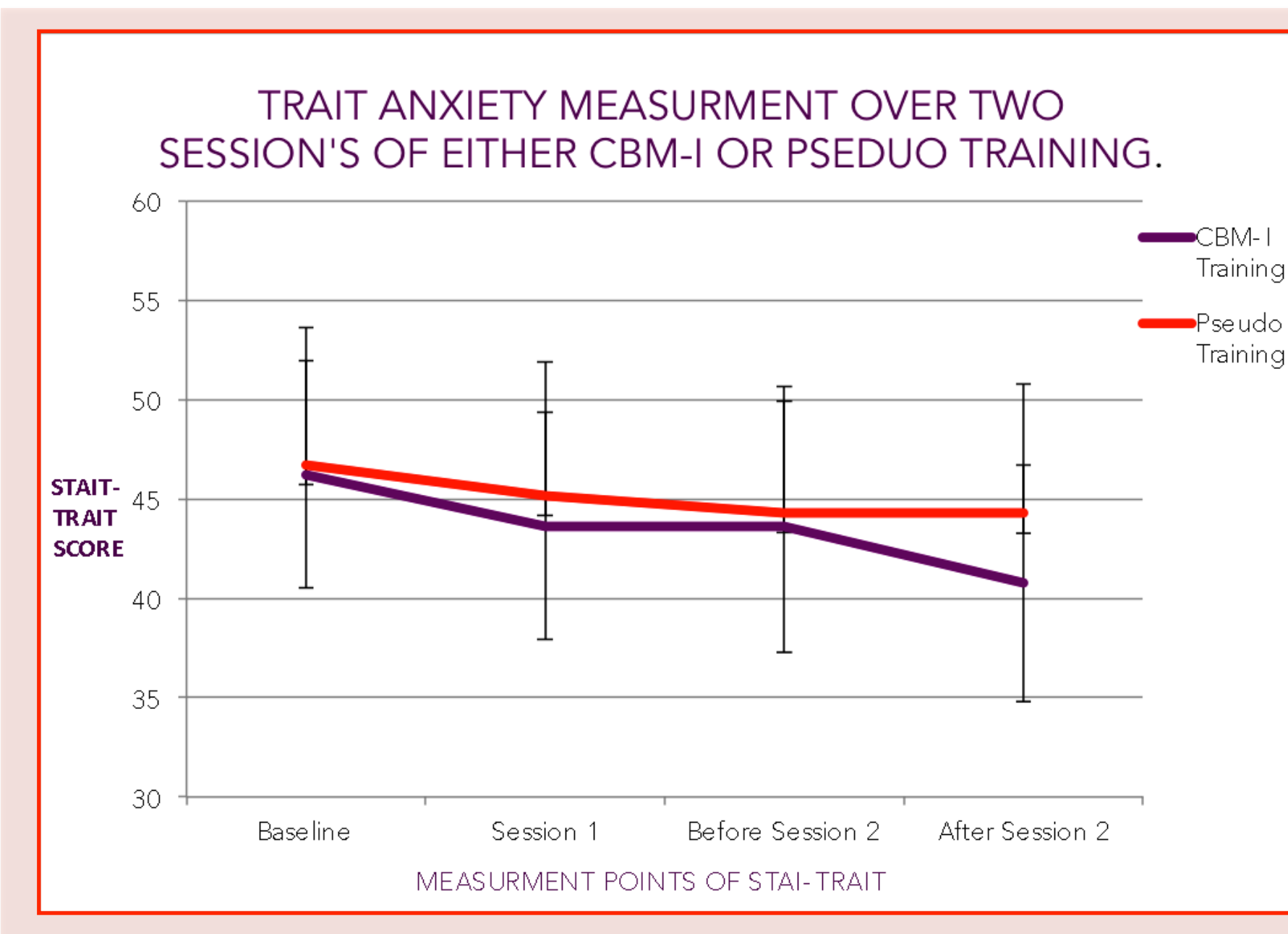
## METHODOLOGY

Condition 1: CBM-I Positive Training Program; 2x 30 mins, 1 weeks apart (N=24),

Condition 2: CBM-I Neutral Training Program; 2x 30 mins, 1 weeks apart (N=24),

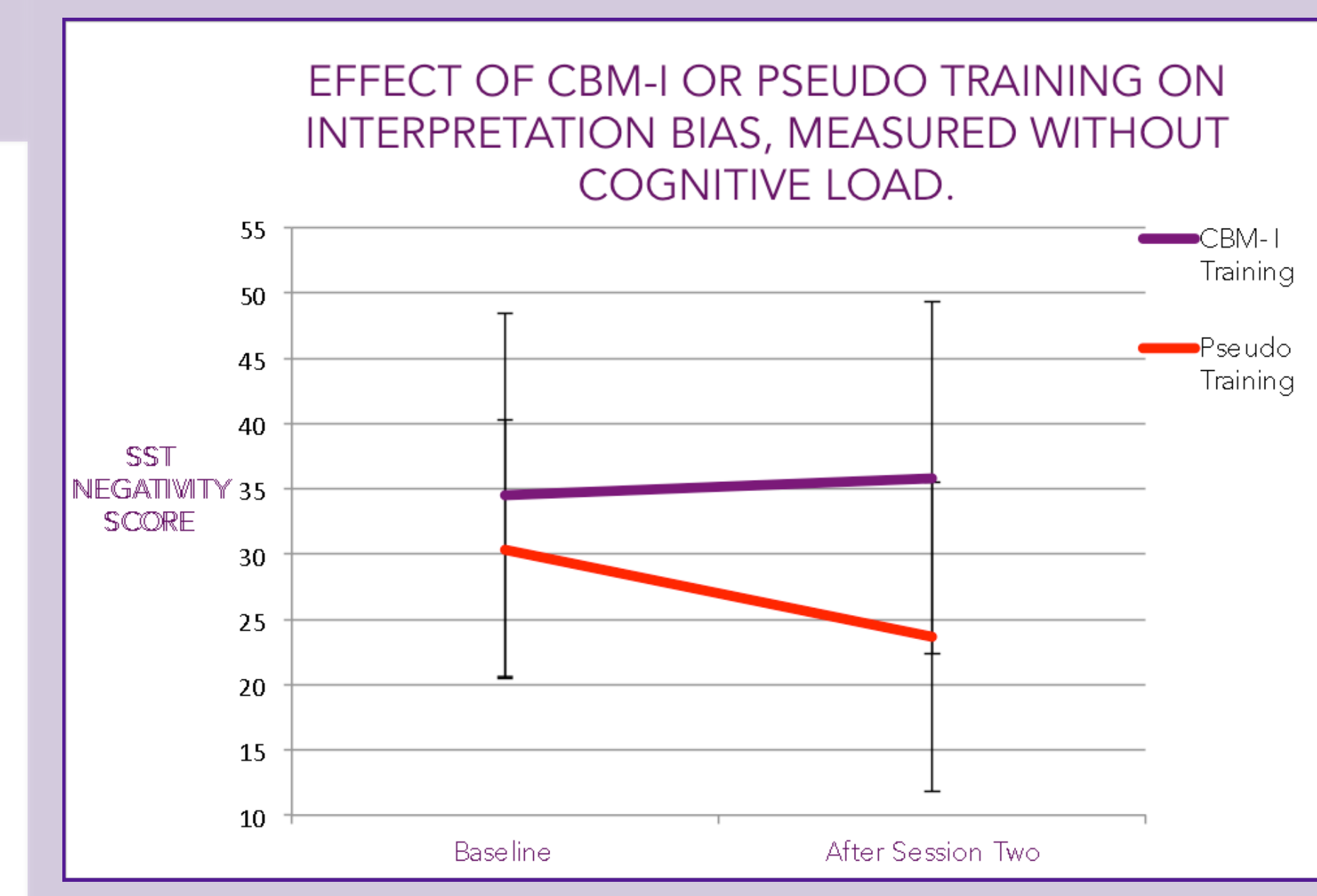
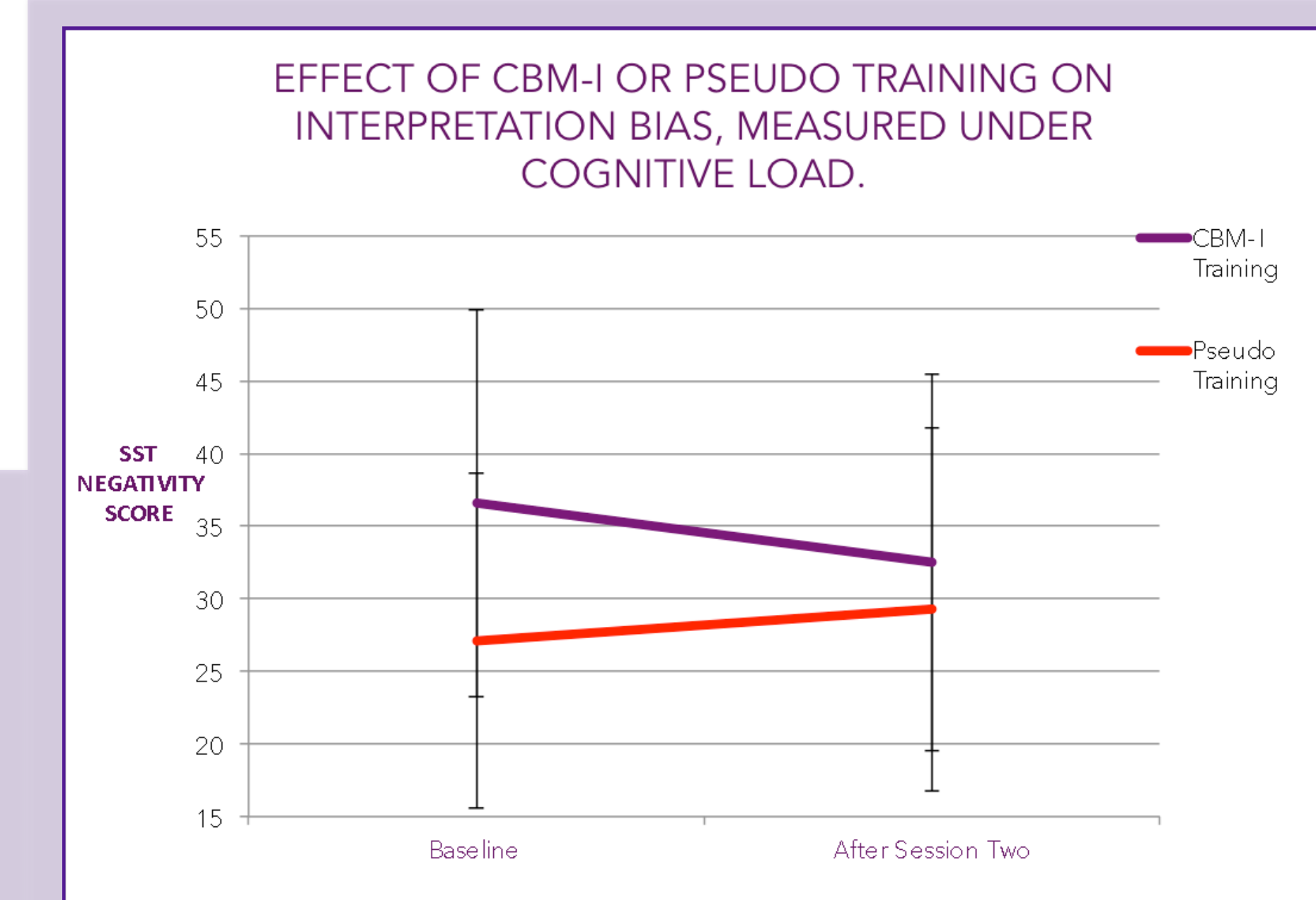
DV's; Anxiety; STAI<sup>3</sup>, Depression; BDI-II<sup>4</sup>, Stress; PSS<sup>5</sup>, Cognitive Interpretation Bias; Scrambled Sentences Task<sup>6</sup> (SST).

## RESULTS



HYPOTHESIS ONE PARTIALLY SUPPORTED CBM-I Group significantly decreased in Trait Anxiety relative to the Pseudo Group. No significant effects on Stress or Depression observed.

HYPOTHESIS TWO IS SUPPORTED There was a significant decrease in the negativity interpretation bias score, when participants were cognitively loaded during the SST, suggesting a less conscious, and more accurate measurement of their cognitive interpretation bias. This significant decrease when cognitively loaded was only observed in the CBM-I Group, relative to the Pseudo Group.



## CONCLUSIONS

The results suggest that positive CBM-I training significantly decreases negative interpretation biases, which in turn ameliorates maladaptive mood. A consequence being, a decrease in reported symptoms of emotion-related disorders such as; Anxiety, Depression, and Stress. Cognitive Interpretation Bias Modification Training programs offer a novel technique for reducing negative interpretation biases and consequently Anxiety, Depression and Stress.

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