**Do attentional and interpretive biases interact or work independently in**

**vulnerability to emotional stress?**

**Cognitive Bias Modification - Study 2**

This is not published yet.

**Study 2** examined the relationship of training bias, with control : N = 105. There were 5 Groups: Attentional, Interpretation, Both Attentional and Interpretation, Placebo, and No Training Control with N= 13 -15 in each group. One group (Group 6) was excluded which had Trait Anxiety less than 40 (or had other problems), N=25.

Study 2 was conducted over 4 sessions. Session 1 used the Supercard bias tests used in Study 1: E-Prime programmes were delivered on individual Windows PC’s. Participants were allocated to one of five training groups: attentional, interpretive, both, placebo and a no-training control.

*Attentional training*: a dot probe task was used, modified such that the arrow consistently appeared in the prior position of the neutral word.

*Interpretation training*: The recognition test was used, modified such that the word fragment is consistently disambiguated with a positive solution.

*Both,* *Attentional and Interpretation training*:Attentional training was done first, and the Interpretation training was done next. It took twice as long as the Attentional and Interpretation training.

*Placebo training*: The dot probe task was then same as the attentional task except the word pairs were neutral-neutral or threat-threat. For the interpretation test the scenarios and associated word fragments were all neutral in valence.

*Testing:* One to 15 participants completed tasks in individual booths. In session1 they completed the questionnaires and they did the biases test. Session 2 and 3 they did the training (Group 1 – 4, Group 5 did no training). In Session 4 they did an Anagram Stress Task, the questionnaires and the biases test over again.

*CBM testing and training*. CBM testing took place and those that were social anxious took part in the next 3 sessions (except those that were Group 5, they didn’t come for the training, only session 4). The Groups they were allocated to where Group 1 – 5, based on their social anxious measures. Session 1 was the first test of their biases and Session 4 was their next test. It was thought that the experimental groups (Group 1-3) would change, and the two Groups that were in the control would not change.

The Groups didn’t change on testing. But the Groups 1-3 Experimental didn’t change on the State Anxiety, and those which were the Control did, because there was a stress task. The Groups didn’t change on Trait Anxiety.

Questionnaires that were used (the same that were used in Study 1):

Beck Depression Inventory (BDI-II; Beck, Steer & Brown, 1996),

Spielberger State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983),

Brief Fear Of Negative Evaluations (BFNE: Leary, 1983),

Social Phobia Inventory (SPIN: Connor, Davidson, Churchill, Sherwood, Weisler & Foa, 2000)

Attentional Control Scale (ACS: Derryberry & Reed, 2002).

**SPSS file:**

Attentional Reaction times are given in milliseconds.

Practice trials (n= 10), buffer trials (n = 4 per set), errors and outliers (following MacLeod et al., 2002: responses < 200ms; > 2000ms) were removed for the analysis

Interpretation Ratings are 1-4.

Spielberger State-Trait Anxiety Inventory (STAI)

STAI-S : state anxiety, a number from 20-80. 20 is low anxiety, 80 is high

STAI-T: trait anxiety, a number from 20-80. 20 is low anxiety, 80 is high

Beck Depression Inventory (BDI-II)

Depression Questionnaire: a number from 0 – 63, with low depression leading to lower scores.

Brief Fear Of Negative Evaluations (BFNE)

Social Anxiety: a number from 12 – 60. 12 is low socially anxious, and 60 is high.

Social Phobia Inventory (SPIN)

 Social anxiety/Phobia : a number from 0 – 68, with lower scores leading to lower social anxiety

Attentional Control Scale (ACS)

Attentional Control Questionnaire: a number from 20 – 80. 20 is low on attentional control and 80 is high

ID: ID number

Gender Gender: male=1, female = 2

Age age in years

BFNE BFNE:Social Anxiety

BFNE\_split BFNE split at 44

STAI\_StateT1 STAI-S: State Anxiety Inventory

STAI\_TraitT1 STAI-T:Trait Anxiety Inventory

STAI\_trait\_split hi trait split at 40

State\_Trait\_together State at 40, and trait at 40

AttNT1 Attentional Bias - Time1 - median Reaction Time Neutral items

AttThT1 Attentional Bias - Time1- median Reaction Time Threat items

AttScoreT1 Attentional Bias - Time1 score - Threat minus neutral

IntMeanPTT1 Time 1 Interpretation Positive Target (PT) total

IntMeanNTT1 Time 1 Interpretation Negative Target (NT) total

IntScoreT1 T1IntTotal: Time 1 Interpretation Bias total PT minus NT

ACS Attentional Control Scale (ACS) total

ACS\_split\_49 Attentional Control Scale (ACS) median Split at 49

BDI Depression Questionnaire -BDI-11 total

BDI\_split\_18\_hi BDI median split at 18

VAS1 Visual Analogue Scale, before Stress task, session 4

VAS2 Visual Analogue Scale , after Stress task, session 4

VASchange Visual Analogue Scale Change

STAI\_StateT2 State Anxiety Inventory Time 2

STAI\_TraitT2 Trait Anxiety Inventory Time 2

AttNT2 Attentional Bias Neutral Time 2

AttThT2 Attentional Bias Threat Time 2

AttScoreT2 Attentional Bias – Time 2 score - Threat minus neutral

IntMeanPTT2 Time 2 Interpretation Positive Target (PT) total

IntMeanNTT2 Time 2 Interpretation Negative Target (NT) total

IntScoreT2 Time 2 Interpretation Bias total PT minus NT

Group Gp1:Attentional, Gp 2: Interpretation, Gp 3: both;, Gp 4: Placebo, Gp 5: Control, Gp 9: exclude

Awareness Pts aware of study contingencies. 1 = Yes- I; 2 =No;

T1ABias Time 1 Attentional Bias

T1IBias Time 1 Interpretation Bias

AttChange Attentional Change

IntChange Interpretation Change