The ability to control the outcome of a risk we are facing influences attentional preference for signs of danger.

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Feelings of anxiety and worry are common experience in everyday life. Often they can be helpful and adaptive. For example, Barlow (1998) stated that anxiety "acts on a number of physiological and cognitive systems to enhance an individual's ability, and motivation to deal with potential threats". However, anxiety and worry can become maladaptive when they become excessive or unfocused. This can lead to an individual not engaging in any behavioural mitigation at all, or in behaviour that reduces the anxiety and worry, but does not attempt to minimise the risks (e.g. going for a drink).

In trying to better understand anxiety, researchers have discovered that anxiety is associated with a selective attentional bias towards threatening information (MacLeod, Mathews & Tata, 1986). However, most, if not all research on attentional bias and anxiety has investigated attention to a threat that was uncontrollable for participants, whereas outside the lab, people often have a degree of control over threatening situations. Research suggests that cognitive processing might be very different when people have control versus when they do not have control over threat (Brandstadter & Renner, 1990). Therefore, the aim of the current study was to investigate attentional bias to threat in situations where people do and do not have control over threat.

Task:

Participants had the perform a visual search task, in which they had to identify whether a target line presented among tilted lines was oriented horizontally or vertically.
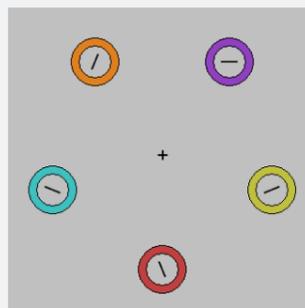

For correct and fast responses, 15 cents was gained. However, when one particular color was presented, there was a 50% chance of losing 40 cents (= the threat). Attentional bias is measured by comparing reaction times on trials where the target is presented in the threat color, with trials where the target is presented in another color (AB index = RT incongruent trials – RT congruent trials).

There were blocks of trials where the threat color was present on 50% of trials, blocks where it was present on 75% of trials, and blocks where it was present on 100% of trials.

Halfway through each block of trials, half the participants could adjust the amount that could be gained and lost (= active control group). The other half of participants was told the computer randomly adjusted the settings (yoked group).
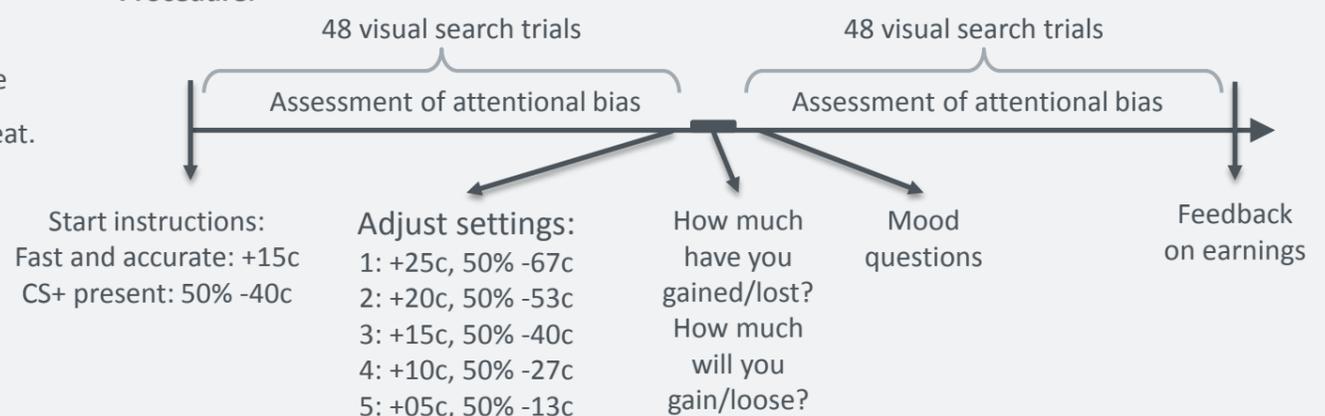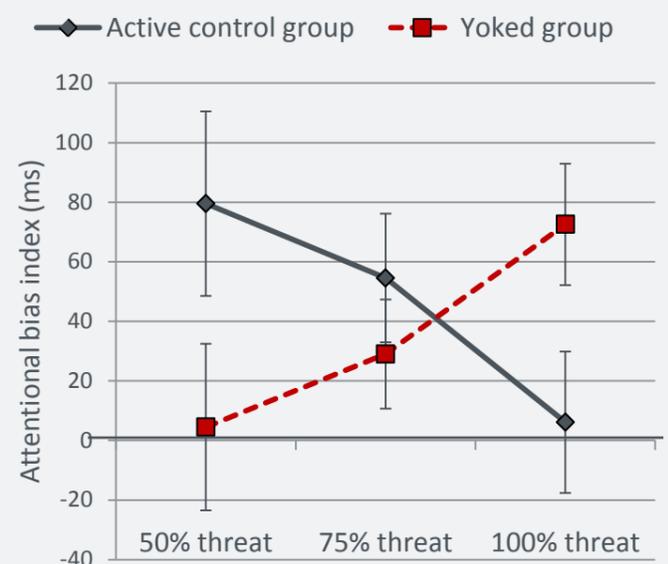
Participants:

60 first year students, across anxiety levels, 18.6 (4.3) yoa, 24 men

Analysis of visual search data:

2 (Group: active control, yoked) * 3 (Environment type: 50% threat present, 75%, 100%) * 2 (Half: first half, second half) mixed methods ANOVA, AB Index as DV.

Environment type x Group: $F(2, 54) = 5.16$, $p < .01$

Conclusion:

Controllability of threat is an important factor in understanding attentional bias to threat. When people do not have control over threat, they show an increasing attentional bias to threat with an increasing presence of threat. When people do have control, they show an attentional bias to threat when it is unpredictable, but not when threat is always present.

Procedure:

48 visual search trials
Assessment of attentional bias

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Assessment of attentional bias

Start instructions:
Fast and accurate: +15c
CS+ present: 50% -40c

Adjust settings:
1: +25c, 50% -67c
2: +20c, 50% -53c
3: +15c, 50% -40c
4: +10c, 50% -27c
5: +05c, 50% -13c

How much have you gained/lost?
How much will you gain/loose?

Mood questions

Feedback on earnings

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