

## The Effects of Positive Imagination on Anxiety and Affect

(Based on Holmes 2009)

When we are anxious or depressed, we tend to interpret what is going on in the external world and within us in a negative way. This is called a “negative interpretation bias.” This document looks at some approaches to dealing with this problem effectively.

1. Fredrickson’s “undoing hypothesis” suggests that seeing a positive or amusing image can reduce the physiological effects of a negative experience – e.g. the heart rate returns to normal more quickly in those that see the positive image (e.g. a tranquil landscape) than those that do not. (Fredrickson 2003; 2009).
2. The inference of this is that if we experience something negative and then focus on something positive (e.g. autumn leaves in the sun) this can reduce the duration of the negative physiological upset.
3. There is some evidence that imagining something positive can also have a positive effect on our mental state in terms of mood and anxiety (Holmes 2009). A summary of the Holmes paper is given below.

3.1	Holmes study shows that imagining a positive event can lead to greater positive affect than thinking positively about that event (i.e. positive imagination in this context is more beneficial than positive thoughts).
3.2	If we are depressed or anxious, there is a tendency for us to think negatively: that is, we tend to filter information in a negative way.
3.3	Recent research suggests that we may be able to modify this (negative) bias by the process technically known as Cognitive Bias Modification (CBM). This is known as CBM-I when the method used is Imagination.
3.4	Powerful negative imagery is known to be associated with psychological disturbance (Hackmann & Holmes 2004). [It is also suggested that coming into contact with negative stimuli (e.g. violent films / DVDs etc) will induce negative imagery – IR.]
3.5	Rumination (verbal) may reduce positive affect. Note that: <ul style="list-style-type: none"> <li>• brooding is worse than simple rumination;</li> <li>• in brooding we tend to be in a low state; then compare ourselves with when we were feeling better; and then this comparison makes us feel worse (Segal et al 2002; Ross 2010 p 157-159)</li> <li>• Holmes emphasises the distinction between our “actual self” with our “ideal self” [depression] and our “ought self” [anxiety] (in the sense of how we feel we should feel) (Holmes 2009 p 77)</li> </ul>
3.6	Worry seems to reduce imagination.
3.7	Depression may be associated with increased negative imagery.
3.8	Extrapolating from 3.6 and 3.7, it is suggested that Mental Training in which we first learn to relax and then use positive imagination may be of great benefit. Note: during imagination we are in the present moment – i.e. the imagination is in this present moment, and thus is “not pursuing the past” or “losing ourselves in the future” (Hanh 1990)
3.9	Method used in Holme’s research (see full text of Holmes 2009) In brief, subjects are given an initially ambiguous statement, which is subsequently made less ambiguous. E.g. <ul style="list-style-type: none"> <li>• “You have started an evening class which is tough going. You are determined to succeed, and after a while, it becomes much <i>easier and more enjoyable</i>.”</li> </ul> Subjects are then asked to either vividly imagine the situation or to comprehend it (verbal).

Results of new Holmes study suggest:

- i. **State Anxiety:**
  - Imagery *decreases anxiety significantly* ( $p = 0.04$ ).
  - Verbal training increases anxiety significantly. ( $p = 0.005$ )
- ii. **Positive Affect:**
  - Imagery *increases positive affect significantly* ( $p = <0.001$ )
  - Verbal training decreases positive affect (n/s:  $p = 0.21$ )
- iii. **Result of negative mood induction** (i.e. in this research subjects are exposed to an experience that induces a negative mood).
  - Positive training using imagery is protective (compared to verbal training; p 81 & 82)
- iv. The inference of iii. above is that positive imagery may be able to be used as a “Cognitive Vaccine” against depression (p 81)
- v. Verbal instructions and verbal training do not help anxiety or affect.
  - So beware of purely cognitive approaches.
- vi. We can get into the imagination scenarios with phrases such as: “Imagine yourself in the situation.....” (p 81).

4. The above research suggests that even *positive* verbal processing may be counterproductive in terms of anxiety and mood<sup>1</sup>. This may be because such (cognitive) verbal processes decrease imagery per se. (Stober and Borokovec 2002). This would be in keeping with the old wisdom that warns us against “pursuing the past” or “losing ourselves in the future” (Hanh 1990).
5. Note some research suggests that:
  - Brooding rumination is maladaptive.
  - Reflection is adaptive (p 85)
6. Positive imagery can be seen in terms of “as if” sensory experience (Holmes 2009 p 77): in this sense it is in the present moment and neuro-physiologically this overlaps with real experience (cf. Gilbert 2009). In addition, positive imagery seems to be associated with positive emotions related to our autobiographical memory (Conway 2001). Figure 1 illustrates schematically some of these dynamics.

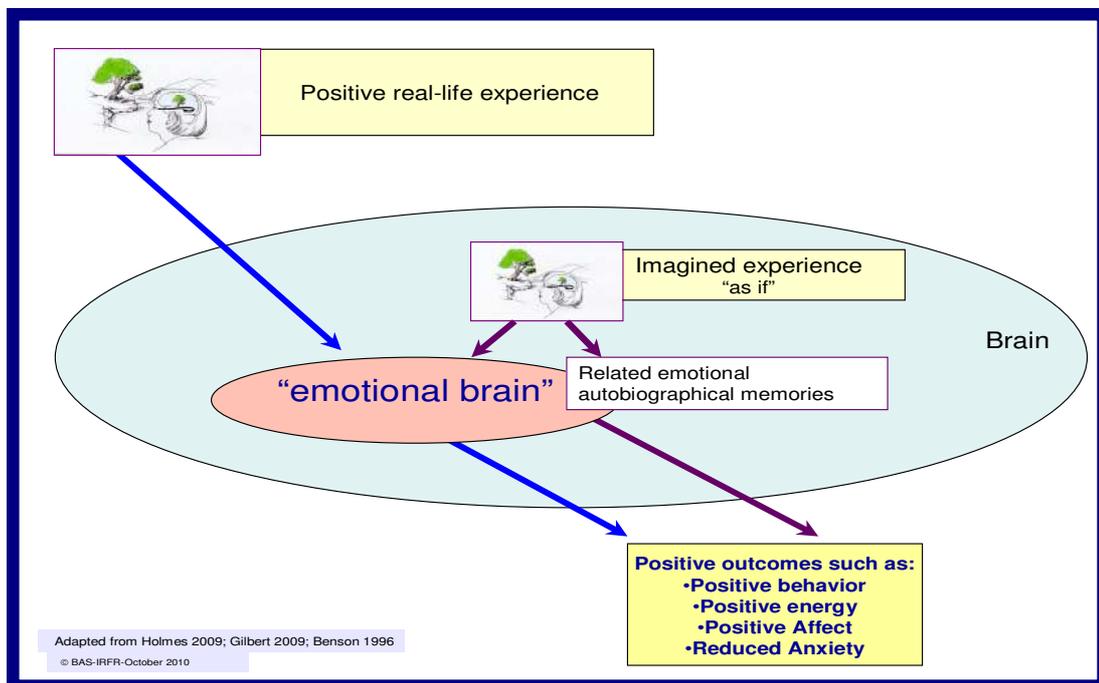


Figure 1

Schematic representation of how a positive real life experience overlaps with a positive imagined experience

Both are taking place in the “Present Moment.”

(Note: the two images of the tree are imported from Benson 1996)

<sup>1</sup> Note that in the Autogenic intentional Off-Loading Exercises, we are expressing out loud what is bothering. This is very different from silent cognitive rumination.

If we go on a holiday in the country following a lot of stress, we can surround ourselves with beauty and the natural world; and this can restore us to health. We could say that our disturbed neuro-circuits are re-harmonised.

The research by Holmes and others suggests that the use of positive imagination in our day to day life can have a similar effect – and reduce anxiety, increase positive affect, and be a buffer against depression.

Note that a good time to use such positive imagination is towards the end of an Autogenic sequence.

### Main reference

**Holmes, Emily. A; Lang, Tamara J.; Shah, Dhruvi M. (Oxford). 2009. Developing Interpretation Bias Modification as a “Cognitive Vaccine” for Depressed Mood: *Imagining Positive Events Makes You Feel Better Than Thinking About Them Verbally*. *Journal of Abnormal Psychology*; Vol 118; No 1; 76-88.**

### Other references and sources

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Stober, J., & Borkovec, T. D. (2002). Reduced concreteness of worry in generalized anxiety disorder: <i>Findings from a therapy study</i> . <i>Cognitive Therapy and Research</i> , 26, 89–96.

### Linked themes in this Autogenic Dynamics section

B1	Bears, Imagination, and Well-Being
C2	Resonance Circuits, Mirror Neurones, and Mindfulness