If Mood Directs Attention, Can Attention Direct Mood?

Everyone knows that the same glass of water can be seen as half full by some people and half empty by others. Psychologists call this difference in perspective *cognitive bias*, and research has shown that our moods create this bias through a powerful influence on how we think about ambiguous events, how we remember them, and even how we look at them. In one study, depressed and non-depressed participants were shown a page of photographs of faces. Some of the faces were smiling, some scowling, some sad, some neutral. Depressed participants were much quicker at detecting the sad faces than were the non-depressed persons. In another experiment anxious and non-anxious participants were presented a series of ambiguous sentences (e.g., "The doctor measured little Emma's growth") and later asked to determine if "growth" referred to "tumor" or "height." Anxious persons were much more likely to identify growth as "tumor" than were non-anxious persons. Such biases have also been shown to affect memory, with depressed persons more likely to recall negative self-descriptions and sad faces, whereas non-depressed persons tend to recall more positive self-descriptions and happy faces. Likewise, anxious persons are more likely to recall threatening words than neutral words, whereas non-anxious persons do not show this bias.

These mood affected cognitive biases should be familiar to all of us. When depressed we focus immediately on the negative aspects of our daily lives, like Eeyore in the *Winnie the Pooh* stories. When feeling anxious we see danger around every corner. Psychologists who treat chronic depression and anxiety spend a lot of time challenging the negative beliefs of such people to help them reinterpret these perceptions.

Now a pair of researchers from Trinity College in San Antonio and the University of California, Davis, respectively, has come up with a novel approach for changing these biases which they call *Cognitive Bias Modification.* Instead of challenging beliefs about what people see, they train people to literally look the other direction and focus on the non-depressive and non-threatening aspects of a situation.

In one series of experiments depressed participants sat before a computer screen with an array of faces, most of which were scowling or sad, but with one or two smiling faces in the mix. The participants were told to click on a smiling face as quickly as possible and to keep practicing on new sets of

faces until they could click on the happy faces as quickly as did the non-depressed participants. In another set of experiments anxious participants were given a brief description of a situation with one of two possible end words which were only partially typed out (e.g., "You have decided to go caving even though you feel nervous being in an enclosed space. You get to the cave before anyone else arrives. Going deep inside the cave you realize you have completely lost your … w_y f_ar). Notice that one of the words creates a positive ending ("lost your fear") and the other a negative ending ("lost your way"). Participants were trained until they could identify the positive words as quickly as did the non-depressed participants. Interestingly, participants in these training sessions were not aware of the effects on their mood, despite the fact that this training lowered their scores on scales of anxiety and depression and lowered stress hormone levels in their blood. In other words, the procedures lessened anxiety and depression without even addressing the causes of anxiety or depression.

What is new about this research is its emphasis on attentional focus, which is a "bottom up" approach to treating depression and anxiety instead of the "top down" approach of cognitive therapy. Back to the glass of water, rather than getting people to talk about why they think the glass is only half full or sharing their feelings about the glass, this research suggests that merely *focusing on the water from the middle of the glass down* may by itself lead to a more positive outlook and improve mood.

No one knows yet if changing one's attentional focus will lead to lasting changes in mood, but it might be fun to test yourself. Where do you focus your attention when you walk into a room full of people? Which words catch your attention first when you overhear a conversation? Which news items grab you first in a newspaper, on a news website, or in a magazine?

Hertel, P.T. & Mathews, A. 2011. Cognitive Bias Modification: Past perspectives, current findings, and future applications. *Perspectives on Psychological Science,Vol. 6,* Pages 521 – 536.