

The Brooding Mind: Making the Worst of Ambiguity

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Imagine yourself at your 10-year high school reunion, a long anticipated get-together for you and all your old friends. You haven't seen many of them since graduation day, and naturally everyone is comparing notes on the lives they have lived since then. This puts you in a reflective mood, but not in a good way. Life has been unkind to you—compared to the lives of your friends, who have all been spared your travails. For days after the reunion, you can't focus on anything but your difficulties, and the unfairness of it all.

If you're a brooder, that is. Someone else might have the same reunion experience, yet come away with a very different interpretation. Every life has its ups and downs, and yours is not unusually good or bad. That's life.

Brooding is a particularly toxic kind of rumination, and it's strongly associated with clinical depression. Brooders see their own problems as debilitating, and this self-focus sabotages any real effort to make things better. It leads to all sorts of negative feelings, which in turn lead to more ruminative thinking, creating a perilous cycle of thought and emotion.

But what's the origin of such brooding? Psychological scientists have in recent years been examining cognitive bias as a contributor to mental disorders, including depression. Many events in our lives are ambiguous, and we all have this basic urge to resolve life's ambiguities. But while most of us interpret such ambiguous experiences in a neutral or benign way, others are powerfully biased toward the negative. This bias in interpretation could play an important causal role in brooding and depression.

That's the idea that psychological scientist Paula Hertel, of Trinity University in San Antonio, has been exploring in her laboratory. Working with Nilly Mor of Hebrew University and other Trinity colleagues, Hertel designed two experiments to target negative interpretations of ambiguity as a possible cause of brooding—and depression.

For the first study, the scientists created 40 scenarios like the high school reunion described above—ambiguous scenarios that could be seen in different ways. These scenarios were conducive to negative thinking about oneself, but they could also be interpreted in benign fashion. Half of the scenarios ended with a word fragment that pointed to a ruminative interpretation, while the other half ended in a way that did not. The scientists measured the speed with which participants resolved each type of fragment—as an indicator of distorted thinking.

The participants themselves had either very high brooding scores, or very low, on a standard measure of this trait. Of course, not even extreme brooders ruminate in every situation they encounter, so the scientists primed some to focus on themselves, while distracting the others from self-focus. They were then told to imagine themselves in these various situations—actually rubbing shoulders with old high school classmates, for example. The scientists predicted that those with brooding tendencies would be

quick to resolve scenarios negatively, especially if they were already focused on themselves.

And that's just what they found. Brooders who were focused on themselves to begin with—these subjects were clearly biased toward negativity. The non-brooders showed no such bias, nor did any of those who were distracted. These findings point to a negativity bias in brooders' interpretations of life's ambiguity.

The scientists wanted to double-check this intriguing finding, in a different way. So in a second study, they tried to simulate the cognitive bias in order to see if it contributed to rumination. They recruited volunteers—in this case all non-brooders—and “trained” them to make either negative or benign interpretations of ambiguous situations like the reunion. They wanted to see if this repeated practice in biased thinking would establish a habit of mind—one that would transfer to other situations.

And again, the answer is yes. As reported in an article to appear in the journal *Clinical Psychological Science*, subjects who were trained in negative interpretations—these subjects subsequently revealed that bias in their writing. What's more, this cognitive bias affected the participants' memories. This makes sense, since recall is shaped, as a “side effect,” by interpretation of events: “Once interpreted, thus remembered,” Hertel says.

These lab results have some real life implications, and indeed offer hope. If a negativity bias does indeed lead to rumination, and is malleable, how about doing the opposite? That is, perhaps habitual ruminators could benefit from some “bright side” training, learning to make benign or even positive interpretations of ambiguous experiences. Such interventions might diminish this maladaptive habit of mind.

The habit of brooding does not develop overnight, and will not be broken easily. Such change, Hertel and the others say, may require intense training in cognitive control, of the sort offered through mindfulness training. But the current insight could prove a valuable first step.

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