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## There's no such thing as the amygdala hijack!



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There's a new theory of emotion that has been 30 years in the making and which turns what we know about emotion on its head. The old triune brain theory of emotion, that we've all come to know and love, is dead. Under the old theory, the brain was divided into three evolutionarily distinct parts: the reptilian brain, the oldest part of the brain, was responsible for instinctual behaviors; the limbic system (including the amygdala) which was added next, was responsible for emotion; and the neocortex, the newest part of the brain and unique to mammals, was responsible for rational thinking. This old view also taught that emotions were built-in and universal. For example, when you're happy you're supposed to smile, when you're sad, you're supposed to frown. But, the scientific evidence just doesn't support this view.

A recent meta-analysis combining 220 studies and over 22,000 test subjects found that only 25% of fear experience studies and 40% of fear perception studies showed amygdala activation. But the amygdala also showed a consistent increase during studies of anger, disgust, sadness, and happiness, meaning that the functions it was performing were not limited to fear but were more universal. This meta-analysis found that no brain region contained the fingerprint for any single emotion. This means that there's no such thing as the "amygdala hijack!"

Under the new Theory of Constructed Emotion, we construct our experience and perception of emotion from the bodily sensations our brain receives, using our internal model of the world. Our internal model of the world is constructed from past experience that is organized into categories, or concepts. The brain uses these 'concepts' to 'categorize' sensations so as to give them meaning. As humans, we categorize everything to help us make sense of the world. And these categories, or concepts, influence our behaviour.

For example, the category "dog" contains hundreds, if not thousands, of examples of dogs, yet we know them all as the concept "dog". The brain categorizes emotions in the same way. People can tremble in fear, jump in fear, freeze in fear, scream in fear, hide in fear, attack in fear, even laugh in the face of fear: these are all instances belonging to the category or concept of "fear." The same is true for all the usual emotions: anger, disgust, happiness, sadness. They are just categories or concepts of that emotion with many instances, or exemplars.

Because our internal model of the world (our concepts and categories) is constructed from our past experience, emotion concepts are specific to the individual and to cultures. Emotion concepts are passed down from parent to child, from one generation to the next. This means that emotions are not universal, but rather, culturally and individually specific and vary widely from culture to culture. Contrary to what we've been led to believe, we can't assume other people's emotions solely from their facial expressions.

One of the keys to emotional intelligence is to make sure that we have a rich set of emotion concepts, or categories, because our emotion concepts influence our behaviour. We all know people who have only two emotion categories and act on them: feeling good or feeling bad, where feeling bad means that someone else is at fault. The more finely grained our emotion concepts, the more accurate will be our behaviour. For example, we can have distinct concepts for interrelated words like aggravation, irritation, frustration, hostility, rage, and disgruntlement, or we could just be angry. The more fine-grained emotion concepts would produce vastly different behaviours than just being angry.

The key to emotional intelligence, then, is to make sure you have a rich set of emotion concepts. Here are some things you can do, or help your clients do, to increase emotional intelligence:

Learn new emotion words and concepts and refine existing ones. This will make your internal model of the world more precise.

Engage in new experiences: New experiences, such as new foods, new activities, travel, books, etc., provoke the brain to combine concepts to form new ones.

Learn new words because words seed your concepts.

Keep track of positive experiences each day to tweak your conceptual system.

Don't ruminate. Rumination creates patterns of negative arousal activity that gets easier and easier for your brain to recreate.

Even if you have a rich set of emotion concepts, sometimes you need to master your emotions in the moment.

Move: Moving your body can change your experience and may help bring out other, less bothersome, concepts.

Change your location or situation: Emotions are context specific, so changing your context can alter your emotions

Recategorise or reframe - anytime you feel miserable, it's because you're experiencing unpleasant affect. So, recategorize suffering to discomfort, for example. Discomfort is physical, suffering is personal.

Learn to deconstruct an affective feeling into its physical sensations. Dissolve anxiety into a fast beating heart, for example. Then you can recategorize your anxiety in some other way, using your rich set of concepts. Perhaps that pounding in your chest is not anxiety but anticipation, or even excitement.

But creating a rich set of emotion concepts is not enough for emotional intelligence. In part 2, we'll look more specifically at how the brain constructs emotion and how allostasis - how the brain regulates the body according to costs and benefits - has a significant effect on how we perceive and experience emotion. We'll also look at how the New Theory of Constructed Emotion redefines stress, anxiety, depression, and even chronic pain.