

SUNNY BRAIN

BRAINY RAINY

by Professor Elaine Fox

There now seems to be scientific evidence that, like Monty Python's *'Life Of Brian'*, it really does pay to "Always look on the Bright Side Of Life."

Some people appear to be incurable optimists. Upbeat and positive, seemingly able to cope with whatever life throws at them. Others are born pessimists, drawn towards the negative in everything. When faced with a choice they will inevitably choose caution, expecting the worst rather than the best. At the extremes, these two different ways of seeing the world can tip people towards flourishing and well-being on the one hand or anxiety and depression on the other. Such divergent outlooks on life seem to be fairly hard-wired. But is this true? Is our outlook on life really set in stone? Remarkable new evidence tells us that our outlooks on life and the brain states that underpin them are actually highly malleable, and while not easy, it is possible to change.

From the moment we are born and as we develop through childhood our personalities become more embedded, more a part of what we are. The distinctive ways in which we react to great news or to bad news, for instance, makes us us. Imagine if we all reacted in the same way to every event. It would be a boring and robotic world. Perhaps then we should not try to change how we are. Perhaps we run the risk of ironing out the interesting differences that make the world a richer place. This is particularly true since many of us – especially in the western world – have a tendency to cast optimism in an overly rosy light. We urge others to "look on the bright side", we gravitate towards optimists and a vanguard of 'positive thinking' gurus even encourages us to see our darkest moments in positive terms. Got cancer? It will help you grow as a person we are told. In contrast, pessimists are often shunned in our society, told to "cheer up" and encouraged to move out of the "dark side of the street."

There are some good reasons for this focus on positivity. Optimism is an essential part of our make up, without it we would find it difficult to get up in the morning. Many psychologists even assume that our ancient ancestors would not have walked out of Africa had we not had the inbuilt curiosity and enthusiasm that goes with an optimistic take on life. Good scientific evidence supports this view – optimism has been linked with better health, success in business, a larger and more supportive network of friends, and even an increased lifespan. Optimism then is an important, indeed essential, mindset that has benefits for many aspects of our lives.

With this focus on optimism, however, it's easy to forget where pessimism comes from and what it is for. As a cognitive psychologist, my assumption is that each and every emotion has evolved for a specific purpose. Take fear, for instance, which is the most studied emotion in neuroscience and psychology. If we think about it, the number one priority in life is to stay alive. Therefore, detecting danger and threat is fundamental. It's no surprise, then, that our brain has an inbuilt, and powerful fear system that can stop all other brain processes in their tracks when a threat is detected. When we study people who have damaged this fear system in the brain – because of a stroke, for instance – we can see that they struggle with everyday life, constantly having accidents and having difficulty in judging whether people are being honest or not. Fear gives us a basic shrewdness. In my new book called *Rainy Brain, Sunny Brain: How to Retrain Your Brain to Overcome Pessimism and Achieve a More Positive Outlook*, I argue that this ancient fear system also has a down side that lies right at the root of pessimism. The basic idea is that our fear brain is essential, but when it becomes hyper-vigilant we begin to notice danger

everywhere and begin to always assume that the worst will happen. Hence, over time the roots of a pessimistic framework begin to grow. If left unchecked this style of analyzing the world around us can escalate, in some people at least, into anxiety disorders and depression.

Pessimism is not all bad, however, it's getting the right balance between optimism and pessimism that's crucial. A pessimistic way of thinking has many benefits, forcing us to consider what might go wrong – and what we can do about it – as well as what may go right. Think of a mother watching her toddler stumbling towards a busy road – would an optimistic mindset be of value here? Obviously not, the more pessimistic take – she might be hit by a car – is clearly the better solution in this situation.

In the course of my own research, I have become more and more aware of how important both ways of thinking are to our survival and to our well-being. I have found that the deep roots of both ways of thinking are embedded in ancient brain systems that determine how we respond to fear on the one hand and pleasure on the other. These are the two great biological motivators that draw us towards the things that are good for us – food, warmth, the company of others, and pull us away from the things that endanger us. Both are essential and we now know that these ancient brain systems link up with much more recent (in evolutionary terms) brain systems to form circuits that underpin optimism – what I call the "sunny" brain – and pessimism – what I call the "rainy" brain. Many scientific studies tell us that people vary along a spectrum of optimism as well along a spectrum of pessimism. The key to a successful life, I would argue, is to keep these two systems in balance. **m**

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