



Did you know that you have three brains?

The brain in your skull isn't the only brain in your body. You have two others that you can rely on to assist you in making decisions, action taking and navigating life.

by: **ELIZABETH MARKIE**

The brain in your skull isn't the only brain in your body. You have two others that you can rely on to assist you in making decisions, action taking and navigating life. Your heart and your gut are also brains. The heart is referred to as your cardiac brain and the gut is your enteric brain.

Recent neuroscience findings have totally transformed how we think about the brain and the nervous system. Two significant discoveries have major implications. Neuroplasticity (our brains can be altered or rewired) and we have complex, adaptive and functional neural networks in both our heart and gut that process and store information.

The field of neuroscience is rapidly evolving and has expanded to into more areas of research that ever before, including the areas of neurocardiology and neurogastroenterology. New technologies have allowed us to study the brain in action, allowing us to better understand how we process thoughts and emotions, how learning takes place, memory is formed, and how our mind set and emotions influence our behavior and body. We don't have a "mind-body connection" we are one whole network.

Previously it was believed that our cognitive brain regulated the function of our heart and gut with a

top down communication. We now know that there is bilateral communication and interaction between our three brains and that our heart and gut brains actually send more information to our brain rather than the other way. With this knowledge and with further understanding how your head, heart and gut interact you can begin to integrate and align your three brains to achieve a distinct advantage in decision making, action taking and personal fulfillment.

The discovery of neuroplasticity, the brains ability to continue to form new neurons and reorganize synaptic connections thought our lifetime has numerous implications on behavior, brain health and overall wellbeing. Simply put, it means we can "teach an old dog new tricks" and become less inclined to be "set in our ways". According to Dr. Norman Doidge, author of *The Brain That Changes Itself*, it is by the influence of thought that we change the brain. If thought is repeated we influence our cells, DNA and even our genetic structure. This means that for individuals suffering from brain damage, such as a stroke or other brain related dysfunction, we can begin to redirect or rewire pathways to reactivate brain functions. It also means that we can rewire our brains to achieve habit and behavior change.

"Follow your heart" has proven to be great advise.



to discomfort or dis-ease. It has also been identified that anxiety, sleeplessness and many brain-based disorders are actually originating in our gut. In 1996, Dr. Michael Gershon coined the gut our “second brain”. The guts neurons and microbiome influence our mood, weight, hormones and even genetic expression. Microbes in our intestines help to produce neurotransmitters that are needed for proper brain function. Neurotransmitters are how our cells communicate and they play a major role in cognitive development, psychological health, sleep patterns and stress response. The gut communicates with our cognitive brain via the vagus nerve

In the 1990’s Dr. Andrew Amour discovered that the heart has its own complex nervous system allowing it to act independently of the cranial brain. It has the capacity to learn, remember and even feel and sense. The fact that the heart has its own intrinsic nervous system is what allows a heart transplant to work.

Research at The HeartMath® Institute identified that the heart communicates to the brain in four ways; Neurologically through the transmission of nerve impulses, biochemically via hormones and neurotransmitters, biophysically via pressure waves and energetically through electromagnetic field interactions.

Emotions influence the activity of our heart and cognitive brain. Renewing emotions such as love, appreciation, and gratitude produce a coherent heart rate variability, or HRV. HRV is a method for assessing

heart health and the effects of stress on your body. It is measured as the time gap between your heartbeats. Research links a coherent pattern of HRV to good health and a high level of fitness. An incoherent pattern of HRV is linked to stress and fatigue. Depleting emotions such as anger, frustration or fear send our HRV into an incoherent pattern. Evidence based research has demonstrated when our HRV is in an incoherent pattern the hearts communication to the brain compromises our “executive brain” or prefrontal cortex and we become reactive rather than responsive. You can build resilience to prepare for and recover from stress by using HeartMath techniques.

Trust your gut? . Is your stomach “upset”, or is there tension in your belly? Using your gut brain to become aware of non-conscious emotions can help to identify thoughts that may be contributing

Having an awareness and understanding of how your 3 brains function and interact can be life changing. Tri Brain® Coaching, Tri Brain Yoga® and Tri Brain® Wellness are educational and wellness programs designed to enable you to think differently about how your brain works, your heart informs you and your intuition guides you. Over the next several issues of Verve, I will be sharing more about our three brains with the intention that the information will serve to enhance your understanding of self and others.

Elizabeth Markie, Founder of WelImagine, Inc.® and Author of Tri Brain® serves as an experienced coach and strategic business advisor. She brings keen insight and support to personal and professional development that leads to clarity, confidence and enhanced performance. Expressing her commitment to self-discovery, leadership and authentic communication she holds certifications from the NeuroLeadership Institute, The Academy of Neuroscience and The HeartMath Institute.