

HOW IMMERSION CONNECTS YOUR HEART TO YOUR BRAIN

The science behind Immersion is well established and proven by outside laboratories, the United States government, and many customer deployments.

Here we break it down so you can see how it works.

immersi**n**
Capture what Captivates.

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20 Years of Published Science to Make it Look Easy

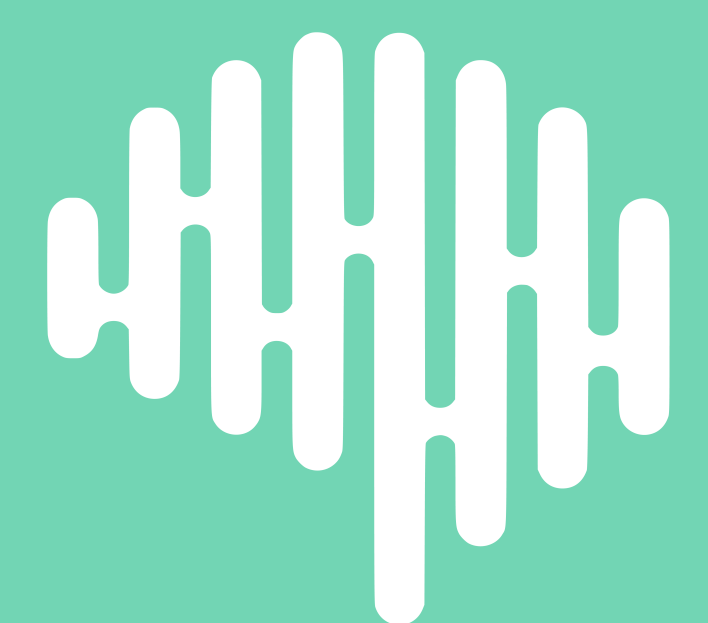
Our founding team has spent much of the last 20 years measuring brain activity to predict when an experience will provoke an action.

Our research established the neurochemicals oxytocin and dopamine as key signals that the brain values an experience & that the experience will motivate actions -- thereby affecting people's decisions.

Many studies have since confirmed oxytocin's role in motivating social behaviors such as trustworthiness, generosity, and charitable giving. At the same time, we measured the effect of adrenocorticotrophic hormone (ACTH) on the heart, to infer the brain's dopamine response.

The team measured both the central and peripheral nervous systems simultaneously at high frequency to establish the relationship between these two signals. Once we understood the correlation, we used synthetic oxytocin for drug infusion studies to trace out the pathways of this neurochemical in the body and ensure they influenced behaviors.

Immersion measures what people's brains value, anywhere & any time, using the smartwatches people wear everyday.



By using medical grade sensors to capture these peripheral signals every second, we identified the subtle changes that together predicted behavior. In combining the many small and subtle signals we measured in a unique and proprietary way, we have optimized our platform for maximum predictive accuracy. It is through the changes in heart activity during an experience that we can then infer emotional resonance and attention which we call "immersion."

Lastly, we found that we could use the photoplethysmography (PPG) sensors found in many common wearable devices to capture enough data second-by-second to eliminate the need for expensive medical equipment.

Immersion measures what people's brains value & can predict human action as a result. We know that your brain is directly connected to your heart.



Our research, along with many others, has now shown the connection between oxytocin and social behaviors like trustworthiness, generosity, and charitable giving. ^{1,2,3,4}

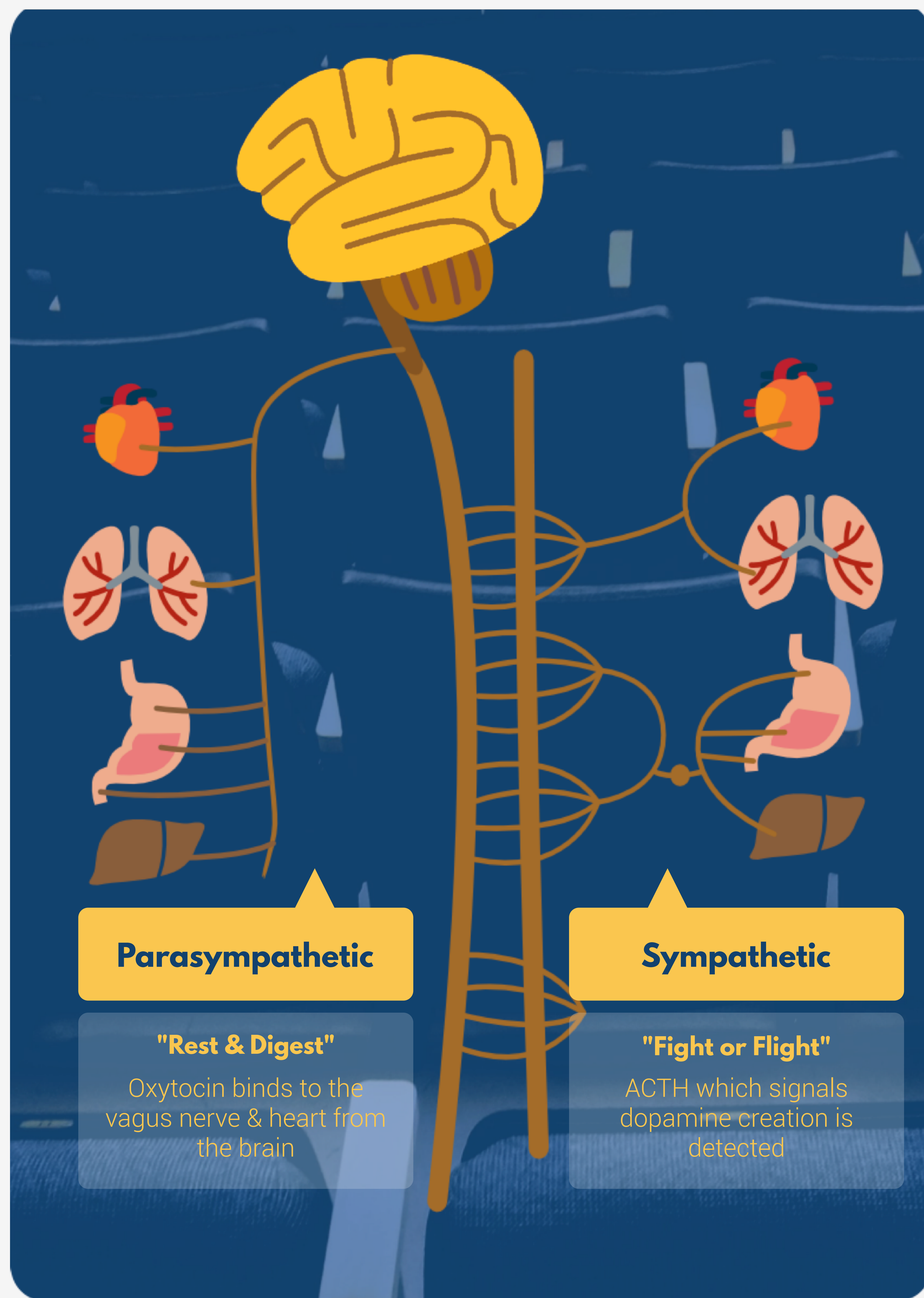
Science has confirmed a unique relationship between the brain and the heart. ^{5,6}

As we each experience the world, i.e. watching a movie, TV show, training, or working with a team, the brain makes and releases oxytocin both into the brain and via the pituitary gland into the bloodstream. This release happens simultaneously, which is why a change in oxytocin in blood reflects the activity of oxytocin in the brain.

In the bloodstream, oxytocin binds to the vagus nerve and heart, thereby subtly changing the heart's rhythms. ^{7,8,9}

There is a significant concentration of oxytocin receptors in the heart, and many studies have shown the role of oxytocin on cardiac modulation. ^{10,11}

Immersion is unique in our ability to identify and measure these subtle changes, and can directly connect what we measure from



heart activity to emotional resonance in the brain. 20 years of peer-reviewed research and dozens of case studies have shown that Immersion will help you measure what your audience loves.

1) Bezdek & Gerrig, 2017; Gordon, Ciorciari, van Laer, 2018
2) Mar & Oatley, 2008
3) Gabriel & Young, 2011
4) Dal Cin et al., 2004; Green & Brock, 2000

5) Porges Polyvagal Theory
6) Thayer's Neurovisceral Integration model (2009)
7) Kemp et al (2012),
8) Norman et al (2017)

9) Barraza et al (2015)
10) Jurek and Neumann (2018)
11) Gutkowska & Jakowski, 2012



Make Every Decision Your Best Decision

By measuring Immersion, creators just like you reduce the risk of bad content and 10x their certainty on every crucial decision.

