

Getting to the Heart of Improving Trader Performance



One of the most talked-about topics when it comes to the area of trader performance is that of emotions, and the requirement for a trader to be able to control, or manage their emotions in order to be able to trade to their potential. It is likely that anyone who has traded will have experienced times where their decision-making has been emotionally driven rather than cognitively, objectively, and rationally driven. Indeed, it is this impact of emotions on traders' decision-making that makes it such a key and important topic.

■ Our state – physical, mental and emotional – underpins our trading performance. All performance is state dependent, i.e. how we are feeling at any given time impacts on how we perform to some degree. Being able to access high-quality, performance-enhancing states consistently therefore is key to being able to trade your strategy successfully. The Special Forces have a model known as the 3 S's that is used as the basis for developing elite soldiers, and it is highly relevant to the development of elite traders also. The 3 S's are, State, Strategy and Skills. The premise is that it is a requirement to be highly skilled, to be able to develop and implement battle strategy, but that the physical and mental/emotional state must also be highly trained.

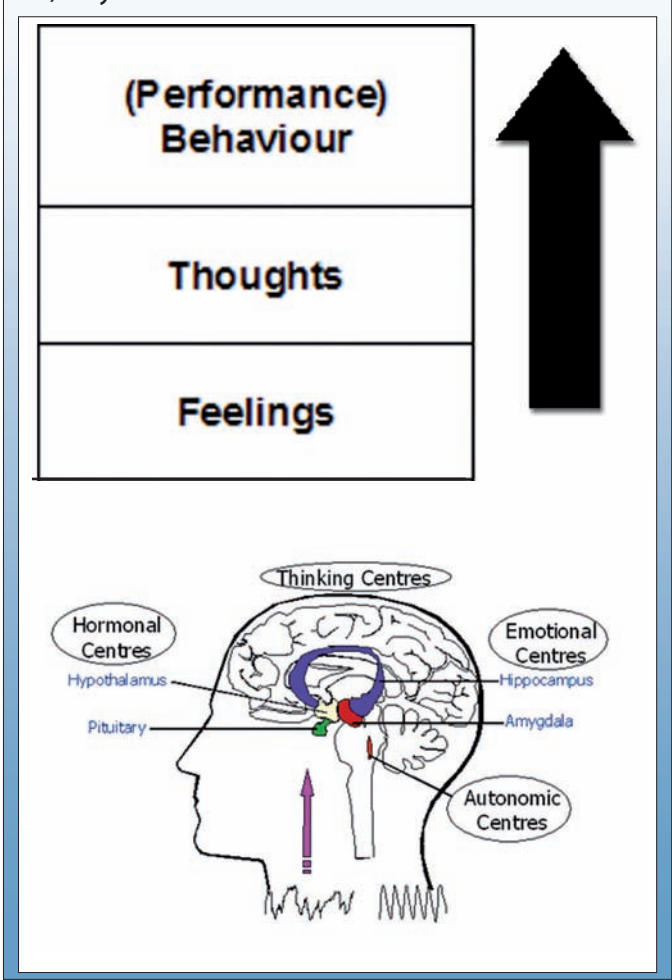
Trader Quotes

"The core of a traders role is making decisions under conditions of uncertainty and risk."

"It is widely recognised that trading is a difficult job that places enormous pressures on individuals – in terms of the complexity and the flow of information, the major consequences that can flow from decisions, and the limited time frame and resources they have to make decisions."

Traders, Risks, Decisions and Management In Financial Markets,
Fenton-O'Creevy, Nicholson, Soane and Willman

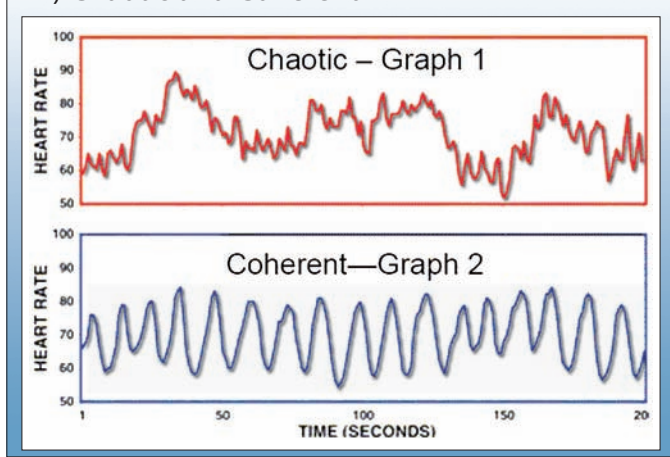
F1) Key Brain Circuits



Interestingly, a significant emphasis is put on state. Why? Simply because in the heat of battle the ability to utilise skills, and implement strategy effectively is dependent on state, and so it is with trading. Regardless of trading skill and the effectiveness of your trading strategy, your ability to implement both is state dependent. Stress, anger, frustration, fatigue, hunger, irritability, fear, overconfidence can all be enemies of peak trading performance. On the flipside, focus, confidence, objectivity, composure, being energised, motivated etc can all be performance enhancing.

If one of the keys to a trader being able to think and act effectively whilst trading e.g. in conditions of relative (to extreme!) pressure and stress, then state management is imperative. However, controlling our state is not always as easy as it is made out to be. Yes, we can learn to control our thoughts as cognitive therapy proponents will tell us, and I use these same approaches myself. However, I believe there are times and situations when they are perhaps not highly effective, e.g. have you ever tried thinking positively in the heat of being really angry, frustrated or stressed? It is not that easy, is it? Although it is true to say that how we think will affect how we feel, it is also true to say that how we feel affects how we think. It is now known that in moments of high stress and threat messages are sent to both the amygdala (a key emotional centre) and the cerebral cortex (rational/cognitive centre,

F2) Chaotic and Coherent



our 'smart brain'). Significantly due to a high speed pathway, these messages arrive at the amygdala first, resulting in our being hard wired to react emotionally first, before we think rationally. Under stress, when the 'fight or flight' response is activated, the blood flow to the cortex is restricted resulting in cortical inhibition, a 'shutting down' of the 'smart brain' leaving us with access only to our 'emotional centres'. This leads to the phenomenon best encapsulated in the phrase 'Why smart traders make big trading mistakes'. This process is physiologically driven, therefore the key to achieving 'emotional balance' lies in being able to control our physiological state.

Coherence - The Peak Performance State

A series of techniques collectively known as the HeartMath® System have been developed that enable people to systematically self-generate and sustain a psychophysiological state known as coherence. This 'coherent' state is associated with a physiological phenomenon called Heart Rate Variability.

Heart rate variability (HRV) is a measurement of the beat-to-beat variation in heart rate. Heart rate is regulated by both the sympathetic and the parasympathetic nervous system, therefore the study of heart rate variability allows an insight into the functions of the autonomic nervous system. It is now known to be a key predictor of overall health{1}. As mental and emotional perceptions change, it has an impact on our heart rhythms. When we are stressed, under pressure, angry etc. the heart produces a rhythm/ signal that appears jagged and disordered (graph 1). This type of electrical signal the heart is generating is said to be chaotic. The alternative electrical signal that is produced by the heart is one of coherence. This occurs when the cardiovascular system is operating efficiently and is in balance with the nervous system. When a coherent state is reached, the HRV plot will appear smooth and regular as shown in the graph below.

The Peak Performance techniques allow the quality of internal electrical signals sent to the brain from the heart to be consciously altered so that a „coherent“ state can be achieved. During phases of coherence, individuals have been shown to have greater emotional and mental clarity, reduced self-perceived stress levels and better sleep patterns as well as enhanced cognitive function and improved performance {2} all of which are obviously highly beneficial to traders

T1) The Results: Psychometric Data, Pre and Post

Measure	Pre	Post
	(Often/Most Of The Time)	
1. Tiredness		
My sleep is inadequate	47%	14%
I experience aches and pains	21%	0%
I feel tired	42%	14%
I feel fatigued	37%	14%
2. Anxiety		
I feel anxious	32%	7%
I feel worried	26%	7%
3. Anger		
I feel irritated	37%	14%
I feel angry	21%	7%
I feel annoyed	21%	7%
I feel frustrated	53%	14%
4. Relaxed		
I feel relaxed	42%	71%
I feel restless	32%	14%
I feel calm	42%	79%
5. Engagement		
Cheerful	58%	86%
I feel satisfied	32%	64%
I feel on top form	32%	57%
Motivated	58%	93%
Enthusiastic	63%	93%
6. Mental Clarity and Decisiveness		
My concentration is as good as ever	37%	71%
I am very perceptive	53%	71%
I feel it very easy to prioritise	37%	71%
That it is difficult to concentrate	32%	0%
I am mentally very sharp and quick thinking	58%	79%
I am under more strain than usual	42%	14%
7. Control		
Very disorganised	42%	7%
Very much in control	42%	71%
8. Stress Cases (GHQ-12 cases)		
Non-Stressed Cases	58%	93%
Total Stressed Cases	42%	7%
Mild Cases	26%	0%
Moderate Cases	11%	0%
Severe Cases	5%	7%
9. Clinical Anxiety and Depression		
Anxiety Cases	11%	7%
Depression	0%	0%

and critical to performance. One aspect of the System involves use of a technique that enables you to consciously disengage mental and emotional reactions to events taking place either internally or externally and focusing on a positive emotion. Using this technique ensures that a state of coherence is reached. This technique is key to achieving, maintaining or regaining a coherent state. Traders may use this whilst waiting to place trades, once in a trade, or to regain coherence after a loss, error or setback which has resulted in a shift from coherence.

How do we know when we have achieved coherence? In order to measure when an individual has reached a coherent state, a computer-

Trader Quotes

"Just some feedback from my experience of the Peak Performance exercises. I found it easy to do the Lock-in exercise each day, I do it in the morning and find it very relaxing. I have successfully upped my trading size in all contracts and do believe the HeartMath has aided this as I have a more objective outlook to my trading now."

Professional Trader

"I have found the techniques very useful, and they are now a part of my daily trading routine. I feel that they have benefited my overall health and well-being, feeling that I have coped with the stresses of trading better, and that I am more able to focus and refocus during the trading day."

Professional Trader

"I have noticed myself staying calmer and more objective with my trades recently, both in trade selection and entry, and especially when managing trades."

Retail Trader

based program called emWave PC is used. This is a form of biometric feedback software which uses a digital sensor worn on one finger, or on the ear lobe, to measure the flow of blood whilst also measuring heart rate, and heart rate variability. Interestingly, the feedback from traders who have been trained in the techniques, and have used it consistently for a period of a few weeks, is that they can actually 'feel' when they are in, or out of coherence. They develop an awareness of the state, which they often describe as being 'balanced', much the same as we know when we feel happy, or out of sorts.

In order to build greater natural coherence into the pattern of the heart rhythm throughout the day, another technique which is core to ultimate success is used for 12 minutes, four to five times a week (optimal). This develops physiological fitness in the same way as going to the gym regularly develops physical fitness.

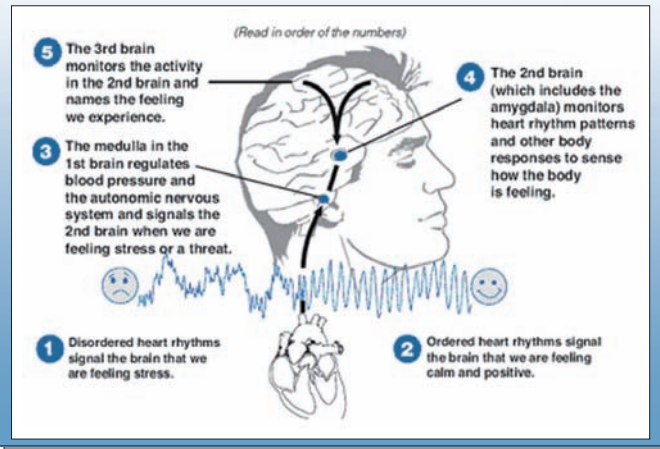
Coherence and Traders – A Pilot Study

During June and July 2007 a pilot research study was undertaken by Tradercourse Ltd and Hunter Kane Ltd (exclusive licensees for the HeartMath system) with a group of 19 traders from the UK to assess the effectiveness of the HeartMath techniques on their trading performance.

Method/Protocol:

- 19 traders; 9 retail (full time and part time) traders and 10 full-time professional traders; 18 men, 1 woman; ages 21 – 45.
- The programme commenced with the traders completing a psychometric questionnaire, measuring a variety of performance-related factors, including anger, anxiety, stress, positive attitude, decisiveness and mental clarity and control.
- They then completed behavioural training, including the use of three techniques at a half-day workshop with Hunter Kane and Tradercourse.
- Traders were then requested to practise using these techniques over a six-week period – the requirement was to complete the 12-

F3) How Heart Activity Affects How We Feel



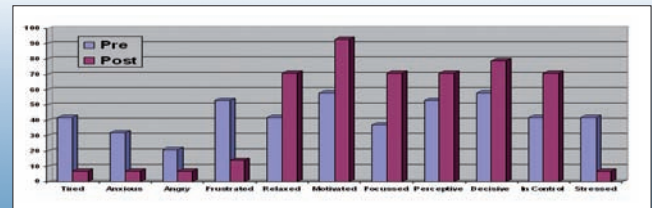
minute 'off line' technique once a day from Monday to Friday and to use the 'in the moment' techniques regularly throughout the day.

- Six weeks later they performed the baseline tests again, and the pre and post data was then analysed.

Measures:

- Customised questionnaire with the General Hospital Questionnaire (GHQ)-12 and the Hospital and Anxiety Depression Scale (HADS) embedded.

F4) Pre And Post Data



The Chart showing the Pre And Post data for some of the key areas related to trading performance.

- Subjective feedback from participants.

P&L, and other trading metrics were not taken during this study, primarily because of the impact of market conditions, which are out of our control, on these factors. The underlying premise is that if a trader can perform to their potential consistently, assisted by maintaining peak states, such as coherence, then they will be optimizing their P&L's and trading results, which may fluctuate due to market conditions in actual value, but remain consistent or improved in relative value.

Although by no means conclusive, the results of the pilot study do show some areas of clear and significant improvement following the programme in aspects that are key to trader performance such as mentally sharp and quick thinking, motivated, perceptive, relaxed.

Interestingly, the period during which the programme was run involved some challenging market conditions, and so factors such as resilience, maintaining a positive attitude, and staying focussed were essential.

Summary

The Peak Performance System is scientifically underpinned and medically validated and achieves sustained impact by teaching traders how to manage their internal physiological state. The techniques have been proven to improve cognitive function, enhancing memory, decision making, creativity, perceptual clarity, behaviour and performance, whilst at the same time reducing the impact of excessive pressure and improving well-being.

The techniques teach about physiological coherence and how to shift to that state. By influencing the level of coherence in the body's internal systems, you can create the physiological preconditions for peak performance, allowing traders to flourish under pressure and sustain success in complex and competitive situations and environments.

The techniques provide a dual benefit. They can be used to counteract the effects of pressure or negative emotions on the immediate environment or moment, as well as provide long-term benefits through rebuilding the body's natural energy reserves, resulting in substantially enhanced feelings of well-being, energy and confidence as well as improving personal health and resilience providing the power to perform.

Trader Quotes

The primary focus of these techniques is on the intentional generation of a sustained positive emotional shift, which, in turn, allows the natural achievement of cardiac coherence which acts as a driver to reinforce the inherent associations between psychophysiological coherence states and positive feelings. It can be shown that the intentional use of these positive emotion-focused coherence-building techniques, on a consistent basis, effectively facilitates a re-patterning process whereby coherence becomes increasingly familiar to the brain and nervous system. This progressively becomes established in the neural architecture as a new and stable psychophysiological baseline or norm. The amount of information travelling through the afferent nerves between the heart and the brain increases during cardiac coherence, and an examination of the role that cardiac afferent input plays in the neural pathways involved in cognitive performance and intentional behaviour has been studied. Experiments have shown that reaction times are significantly improved in the coherence state. The studies showed such cognitive performance can be improved by maintaining psychophysiological coherence prior to performing a task and that there appears to be a carry-over effect of the coherence mode on subsequent cognitive performance. Furthermore, the findings also suggest a physiological link between positive emotions and improvements in functions such as motor skills, focused attention and discrimination. These results suggest that any environment that requires people to process information quickly, recall information or pay attention over extended periods of time will benefit from using the Peak Performance programme incorporating the HeartMath® System.

Dr Tony Yardley-Jones and Professor Keith Wesnes
Cardiac Coherence, Cognitive Functioning and Enhancing Performance
Using The HeartMath® System, April 2006

References

- [1] Tiller W, McCraty R, Atkinson. Cardiac Coherence: A new non-invasive measure of autonomic nervous system. *Alternative Therapies*. 1996: 52-65
- [2] Akselrod S. Components of heart rate variability: Basic studies. In: Malik M and Camm A.J, Heart rate variability. Armonk NY: Futura Publishing Company, Inc., 1995: 147-163
- [3] Singer DH, Martin GJ, Magid N et al. Low heart rate variability and sudden cardiac death. *J. Electrocardiology*. 1988 (suppl):46-55

So What Are The Benefits To Traders?

- Improved cognitive functioning – thinking, analysing, processing
- Improved decision making – mental clarity and sharpness
- Improved perception of opportunity in the markets
- Improved emotional control – getting into the trading zone
- Improved performance under pressure
- Improved resilience – ability to handle setbacks, errors, losses, tough times
- Improved energy levels and greater concentration and focus
- Reduced stress and anxiety
- Improved sleep

The pilot study was an interesting first foray into the effects of coherence training and implementation for traders, and has definitely highlighted some key performance enhancing benefits. I have also introduced several of my coaching clients to the techniques for assisting with issues such as dealing with stressful situations, maintaining balance, and improving decision making, all with very positive feedback.

In times when market conditions, such as the recent credit crunch, have been even more challenging than usual, and institutional and professional traders have been really under pressure, the need for strategies that can help to reduce stress, and maintain peak cognitive functioning have never been greater. The techniques may go some way to facilitating such levels of performance.

For further details of peak performance training for traders please contact steve ward at steve.ward@tradercourse.com.

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