

Talking Your Self Blue...

Re-wiring thinking to be more Constructive – Insights from Neuroscience

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In recent years insights from Neuroscience has captured the imagination of the community. This paper summarizes and explores the application of some of the insights around emotional regulation in relation to working with the Circumplex, specifically the Life Styles Inventory. Taking a pragmatic approach, the paper explores these issues and implications for coaching leaders using one leader's experience as a guiding light. The leader in the spotlight, Sam Wyatt is a fictional character whose story is based on real world experience.

Acknowledgement	
Many people have given of their time and effort in helping me to produce this paper. It is	verv
much a team effort and we hope you enjoy reading!	,

Table of Contents

Part 1: Setting the Scene		4
A Chance to Shine	5	
"It's All in Here"	6	
Two Hemispheres, Four Lobes and Billions of Neurons	6	
The Shine Loses it's Lustre	7	
What Happens In Our Brain When We Can't Think Straight	8	
That Really Hurt! The Pain of Rejection	9	
And Reminded Me of the Time When Memory and Threat Triggers	9	
Fear is contagious	10	
Down the Rabbit HoleA Bad Meeting Leads To a Downward Spiral	11	
Down But Not Out	13	
Part 2: Working with Sam: The Coaching Process	14	4
Getting into Sam's Head – The Circumplex as a Snapshot	15	
Sam's LSI Results	17	
What Makes Us Feel Threatened?	19	
Part 3: Rewiring Self Talk to Be More Constructive: Strategies for C	Coaching2	4
Bringing it all together in Coaching Sam	27	
Practice makes Progress	33	
Conclusion	35	
References	36	

Part 1: Setting the Scene

A Chance to Shine ...

"Life is good," Sam thought to himself. It was a beautiful morning, he'd had a great workout at the gym and now, with a fresh capuccino in hand, he was off to his new office.

As he wandered towards the office, he couldn't help thinking that all the hard work over the last nine years had paid off. He had finally snagged 'the big one'! The project which would make his career. He thought back to nine years ago when he first stepped through the hallowed halls of Baxter Neman, one of the largest financial institutions in the business. It had taken him a while to find his feet but eventually he discovered that he had a talent for project management. His ability to create order from chaos combined wth his skill in delivering projects on time and under budget is what eventually led to his appointment as General Manager of the Program Office. While he enjoyed the role, after three years, he felt ready for a greater challenge and **Project Gold** definitely offered that!

Project Gold was Baxter's new data mining system. It had the potential to net the organisation, millions of dollars from Consumer Banking. Unfortunately it was a 'trouble child'. Before he'd been confirmed in the role, Sam was told that the project was significantly behind and that the business owner, Julie Gates, was very unhappy. At the time of his appointment to the role his boss, John, had acknowledged that while the work was a little below his capability, his experience in leading large multi-million dollar projects was desperately needed. John also mentioned that if he played his cards right, and was successful in implementig this project, it would place him in the running for John's role as Group General Manager, Enterprise Solutions when he moved on in eighteen months time.

Sam was roused from his reverie by the sound of a voice in the distance calling his name, "Sam! Hey! Wait up!"

It was Tony Gelano, an old colleague who was now working in the Consumer Banking area. Sam waited until Tony caught up,

"Long time no see Tony, how're you doing?"

"Good, Sam, really good. Hey I heard you've inherited the 'poison chalice'! I hope you know what you're getting into."

Sam smiled, slightly amused. He'd been getting this kind of ribbing for the last two weeks when it was first announced he was taking over the role. Julie Gates, the Director of Consumer Banking who was the business owner of Project Gold, was universally known to be a bit of a dragon. Most people who had anything to do with her found her intimidating, but he wasn't worried. While he didn't particularly enjoy conflict, he was determined to succeed.

"Of course. I know what I'm doing", Sam replied. "I know that there've been some pretty significant problems. The scope for one thing, is woeful, but I already have a meeting in place with Julie and the team to set that straight; besides, all it takes is some careful planning, analytical nouse and some creative thinking and we're back on track."

With a look that said he was doubtful, Tony slapped him on the shoulder, "You're probably right. At least, I hope so for your sake"

With an air of quiet confidence, pointing to his forehead, Sam assured Tony, "don't worry mate, it's all in here...."

"It's All in Here...."

Two Hemispheres, Four Lobes and Billions of Neurons....

When Sam referred to his 'analytical nous' and 'creative thinking', he may not have been aware that different parts of his brain are largely responsible for his ability to do these things. The brain is made up of two halves or hemispheres which have become popularised as left and right brain. While there are interconnected structures between these hemispheres it does appear that each hemisphere focuses the brain in different ways. It appears that the left brain is more associated with logic, analysis, facts, computation and thinking in words, and, functions in a linear fashion whereas the right brain is more associated with holistic thinking, insight, creativity, non-verbal cues and day dreaming.

In addition, to the two hemispheres, there are four lobes, each with a specific role. Of particular interest are a few specific structures deep within a few of these lobes.

- **Frontal Lobe** -*Pre-Frontal Cortex (PFC)* our "Executive Centre" that enables us to reason, plan, problem solve and make decisions, and control or inhibit our impulses. This is the part of the brain that can veto the automatic reflex responses.
- **Temporal Lobe** -*Limbic system* our "Emotional Centre". The part of our brain that is responsible for generating our 'emotional world'. While the Limbic system has many parts, a key focus in Sam's story will be, understanding the role that the Amygdala, Hippocampus and Thalamus play. The role of the Amygdala is pivotal in processing our emotions, particularly fear. It sits very closely to the Hippocampus which is the part of our brain involved in the forming and storing of memories as well as connecting these memories to emotions, sound and smell. The Thalamus is the first port of call for information or stimuli entering our brain through the brain stem.
- **Temporal Lobe** -*Basal Ganglia* our "Habit and Routine Centre". The part of the brain that stores routine and habitual information. It's the part of our brain that enables us to do certain things on autopilot, without too much effort of thought, thereby conserving energy that might otherwise be required by the Pre-Frontal Cortex. The classic example of this being riding a bike or driving a car. After a few years of experience doing either of these, we go into 'auto pilot', we do not need to expend too much effort in remembering what to do unless there is something new about the experience such as riding or driving to a new location. In most ordinary, routine circumstances, it comes immediately and automatically.

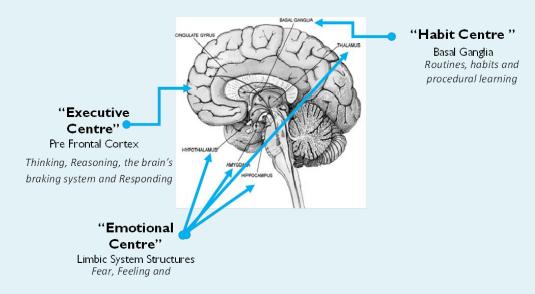


Figure 1 - Brain Lobes and Structures

The Shine Loses it's Lustre....

When Sam got to his office, he checked his emails and his diary for the day. The biggest priority was the project review meeting with Julie that afternoon. The key task was advising her that the scope would need to be redone. They would lose quite a significant amount of time in the rework, not to mention the costs involved. He knew that she would not react well, but hoped that she would take a longer term perspective of the beneficial impact to the business.

At about 2pm later that day, Laura, his 2IC, popped in. "Sam, the team's ready for the pre-meeting briefing session." Sam wanted to go over the key issues with his team before their meeting with Julie at 3pm.

Once they had confirmed the key points and business case, Sam could not help but ask his team, "when you realised that the scope was inadequate, why didn't you guys raise it with her then?"

"Well, for one thing," Tom began, "she had us chasing our tails, demanding this and wanting information on that. The level of detail she requested was ridiculous, we were working all hours trying to keep her happy so we really didn't have time to check the initial scoping work. By the time we knew something was wrong, David was cut from the lead role and you'd been appointed but weren't due to start for two weeks. Honestly? None of us were game to tell her ourselves."

"Is she really that bad?" Sam questioned. As one, everyone in the room just nodded. "Oh well, I'll have to act as a bit of a buffer for you to ensure you can do your jobs."

When Julie joined them at 3pm, she seemed engaged and enthusiastic, she did not seem such a hard case. With most of the minor issues discussed, it was time to tell her about the implications of the inadequate scope.

"So unfortunately Julie, what this means is if we are going to do this right, we'll need to redo the scope document and the functional specifications."

As he finished making his point, Sam felt the room go quiet, not a good quiet but the unsettling kind. He glanced across the table at his team for some comfort. None came. The sinking feeling in the pit of his stomach told him he had erred in judgement. He had been warned about how Julie had cut his predecessor down to size but thought he knew better. He braced himself, wishing he had kept quiet, bided his time like he'd been advised to by those who had worked with her before. The silence in the room made him edgy, until with raised shoulders and jutting chin, Julie, leaned forward...

"You've got to be kidding! Seriously?! That's absolute rubbish, what the hell am I paying for if you can't get something as basic as a scope document right?!!! I was told you were being brought in to deal with this incompetence, were they wrong?!"

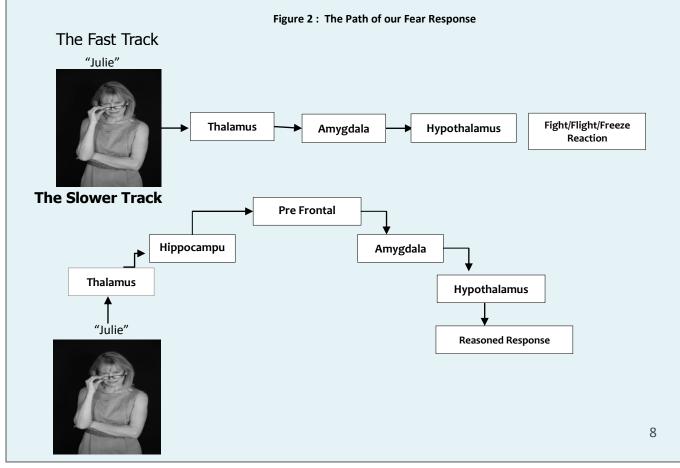
In case he had missed the steel edge in her tone, the red flush climbing up her neck was a visible reminder of just how angry she was. He saw the expectant looks on his team members' faces and saw their shoulders slump when he said nothing, allowing her bully tactics to control the rest of the meeting. He'd let them down. He felt humiliated. He knew he should say something but his mind had gone blank, he kept reaching for something to say but he just couldn't seem to think straight.

What Happens In Our Brain When We Can't Think Straight....

While a certain basic knowledge of brain biology is useful in understanding why we react the way we do under pressure, arguably the most important thing to understand about the brain is that it is, above all, an elegant and highly complex mechanism dedicated to helping us survive. As such, our brain is organised around a central principle: *minimise threat, maximise rewards*. (Gordon, 2008). We are goal oriented creatures who are hardwired to defend ourselves against anything that may hurt us and to move towards things that we enjoy, or will make us feel good. In most cases when we feel unable to think clearly, it is probably because we have been triggered into a threat state. When this happens our Amygdala has been activated.

Information from the environment enters our brain via the brain stem in what is known as the 'bottom up' process. In what is known as the 'top down' process, the information gradually makes its way through to the Pre-Frontal Cortex (PFC) where it is evaluated and assessed in terms of the maps and templates we already carry from our lives based on our experience, knowledge and values. Our reactions and subsequent behaviour is more often than not a result of the combination of both processes.

Some of the information that we receive through this bottom up process travels a 'fast track' to the Amygdala first, so it can **judge** whether the stimulus is a threatening one. The Amygdala also draws on the hippocampus in making its assessment of whether the 'in-coming' stimulus is a threat by checking if there are any **memories** that reinforce the need to fight, fly or freeze (our automatic defensive responses to a threat). The information then passes to our Pre-Frontal Cortex where we can decide "yes this is bad, we need to respond accordingly" or "no: false alarm". The classic example is when we hear a loud noise. Our startle response is effectively getting us ready to fight, fly or freeze but a few seconds later we realise that it was a book that landed on the wooden floor, three feet from us and so we settle ourselves down and relax. Like a fire fighter waiting for the call, our Amygdala is always in a position of readiness so that it can leap into action. This complex process is lightning fast. Sam's fear response in that meeting likely took less than 200 milliseconds before the same information could be relayed on to his Pre Frontal Cortex, to think through, analyse and evaluate his options and act on them (Gordon, 2008, p.3).





This idea of the Amygdala being able to create an emotional response that dominates the brain so quickly was initially popularised by Daniel Goleman as the "Amygdala Hijack" in 1996. This term refers to instances when the emotional response to a stimulus takes over the brain. Goleman describes three aspects to an Amygdala Hijack that include:

- i) a strong emotional reaction
- ii) rapid onset and
- iii) realisation post the event that the reaction was inappropriate.

Neuroscientist Amy Arnsten, in an article called 'The Biology of Being Frazzled" (1998) explained why this is. During periods of emotional stress, the activated Amygdala triggers the release of a cocktail of catecholamines (hormones and neurotransmitters designed to help us react to threat by fighting, freezing or fleeing) into the Pre Frontal Cortex which inhibits our cognitive functions. This makes it difficult for us to think, which is why Sam was completely dumbfounded in the meeting when he was verbally attacked by Julie.

That Really Hurt! The Pain of Rejection

Even though her attack had been **verbal**, Julie's derogatory comments may have been as keenly felt by Sam as if she had actually physically slapped him! Research by Naomi Eisenberger and Matt Liebermann in 2004 found that the areas of the brain that gets activated when we are in physical pain are similar to those that are activated when we experience social pain such as rejection and exclusion. The implication of this is that 'social needs are primary', they are as essential to our survival as our physical needs (Rock, 2009). So in light of this we can appreciate that even the humblest of workplaces is capable of becoming a hotbed for situations that may directly or indirectly invoke a threat state in employees. Such situations can include performance reviews, conversations that involve actual or potential disagreement or the discussion of difficult issues (such as the meeting that went so badly for Sam), starting a new job, making a mistake, failing at a task or project, losing business, trying to fit into a new workplace, not being invited to a meeting or for drinks after work, or even being told that we are about to receive some feedback! These are all situations which have the potential to move us to a threat state, and from a Circumplex perspective show up as defensive thinking on the LSI 1 or defensive behaviour on the LSI 2 at a snapshot in time.

And Reminded Me of the Time When ... Memory and Threat Triggers

The Amygdala appears to play an even broader role in processing our emotional responses. Additional research and literature reviews in recent years have highlighted its role in a range of what I am going to describe as 'fear potentialities' (Phelps, 2006; Lieberman *et al.*, 2007; McRae *et al.*, 2010). In her review of research 'Insights from Studies of the Human Amygdala', Elisabeth Phelps cited a number of studies which confirmed the role of the Amygdala in the acquisition and storage of conditioned fear responses (2006, p.29). This is when a negative experience is coupled or associated with a particular stimulus. Relating this to Sam's experience, we recall that he *felt the room go quiet, not a good quiet but the unsettling kind,* and from that he had concluded that *he had erred in judgement.* Even in these milliseconds Sam judges that the quiet is unsettling and that this was not good (threat).

One of the reasons why he was able to arrive at these conclusions was that at some time in his life he would have experienced 'quiet' as being associated with something he did wrong or something he got into trouble for. The more intense the emotion or arousal associated with an event, the stronger the memory (Phelps, 2006, p.33). At that time he may have learnt that the safest course of action was to say nothing, making him smaller or less visible. As very young children we learn and store information about how we need to behave in order to stay safe. These strategies are preserved like maps and templates in our brain to maximise efficient reaction when placed under pressure or in a threat state. Some of us like Sam would have learnt that retreat was the best way to stay safe while others of us like Julie may have learnt to 'come out fighting'. Others still, may have learnt any possible variations of these such as submission (Dependent), flattery (Approval) or posturing (Oppositional/Competitive)

In any and all cases, the more we repeat these behaviours the more pronounced and deeper the neural pathway for that behaviour and the more automatic it becomes to the point where it is unconscious.

Fear is contagious...

There is also substantial evidence (Phelps, 2006, p.33-33) to show that other people's fear and anxieties are contagious! A person may have no direct experience of a negative situation but can acquire the same fear through others. In Sam's case we can see this in action. Well before the meeting, he had, to an extent, been primed about Julie and her behaviour: *He had been warned about Julie and had heard stories of how she had cut his predecessors down to size.* It is possible that even prior to the meeting taking place, his knowledge of Julie's reputation and behaviour created a level of nervousness or anxiety suggesting that his Amygdala was already "on duty" before anything had been said or done. On a separate note, the idea of being able to "catch" someone else's fear or anxiety without ever having to experience it directly underscores the impact that stories, gossip, rumour and the grapevine obviously has on workplace culture. It heightens the vital importance of clear, honest, Constructive and regular communication from the appropriate sources to mitigate the damaging effects of negative stories on an organisation's culture.

The reason Sam could not think straight in the all-important project meeting with Julie was that his brain was being flooded with stress hormones and chemical signals generated by the heightened activity of his Amygdala responding to the unsettling quiet, lack of comforting support from team members and verbal attack from Julie which triggered a threat state. This flooding of stress generated



hormones and neurotransmitters, made it very difficult for the Executive Centre of his brain, the Pre Frontal Cortex to think clearly. Likely, due to his past conditioning, his response to this was to retreat. It might have felt safe but it was not necessarily effective and left him feeling bad about himself.

Down the Rabbit Hole...A Bad Meeting Leads To a Downward Spiral

He couldn't get anything done... it had been almost two weeks since THAT meeting and he couldn't get it out of his head. He just kept playing the scene over and over again and it still felt as raw as it did when it first happened. He was probably a laughing stock by now. He was supposed to be the guy who would turn it all around. He cringed when he remembered what he had said to his team "Oh well, I'll have to act as a bit of a buffer for you to ensure you can do your jobs". Yeah right! He'd been avoiding them ever since. He had a million things to do but just could not seem to get motivated to do any of them . He had a number of decisions the team were waiting on that he had not gotten around to...

"Oh no! That's all I need!' Sam thought, as he watched Laura make a bee line for his office.

"Sam have you got a minute?" she asked.

"Um, to tell you the truth, I'm in the middle of something. Can't it wait?" He suggested trying to look like he was busy.

"Well, not really. We need a decision from you about the additional consulting costs involved in the re-scoping of the project. You said you'd give it to us today and we've got the consultants chasing us for an answer."

"Leave it with me. I'll check it over after I'm through analysing the budget."

He looked up and Laura was still standing there, looking like she had something else to say. "Is there something else?" He asked reluctantly.

"Look, I might be crossing the line here but I can't help but notice that you have not been the same since that meeting with Julie a few weeks ago. She was wrong to have a go at you like that, but you can't let it get to you. We need you to keep fighting the good fight."

"Thanks for your concern Laura, I appreciate it, really I do, but it's not what you think. I've just got a few other issues playing on my mind...If that's all, can you shut the door on your way out? Thanks." And with that he put his head down, doing his best to look engrossed with the blank spread sheet in front of him.

He knew he had to snap out of it. He was not being the leader he knew he could be. For some reason Julie *had* gotten to him. He was letting the team down. Not only had he expected more of himself but he knew he had built up the expectations of his team only too well and truly quash them.

Every day was getting a little bit more difficult to get out of bed, a little bit harder to interact with his team. He was losing his confidence and was worried his performance was slipping. He could feel himself at the beginning of a downward spiral.

The Downward Spiral - Expectations + Experience

Sam had held high expectations of himself as did his team. He had assured them that he would deal with the situation and 'bring it under control - he did not and in fact was bullied in the process.

Expectations play a key role in how we perceive and construct our experiences of the world (Rock, 2010; Tetsuoa et al, 2005). Our expectations act as a mould for incoming data (stimuli) altering and shaping this data wherever possible to fit their mould. The impact of expectations on our experience is so strong that the intensity and degree to which our expectations are met can trigger an increase or drop in Dopamine levels (Rock, 2010). Dopamine is a neurotransmitter (chemical signal) that plays a number of important roles in our brain. It is a key player in our reward circuit and important for our learning and



ultimately our performance. A big enough drop in Dopamine levels can trigger a downward spiral which involves a process of increasing stress levels, increased limbic activity and decreasing confidence leading to poorer performance. Once caught in such a downward spiral the ever decreasing levels of Dopamine make it difficult for us to be energised sufficiently to climb out of the spiral or for us to feel equipped to do anything about it.

Down But Not Out....

Sitting in the local café having lunch a few days later, Sam pondered his situation; he had to find some way of working through this problem. He knew he was not performing at his best, but was not sure what to do about it.

He was considering his options when Tony Gelano stopped by.

"Can I join you?"

"I'm not sure I'm great company right now" Sam replied.

"Why? What's up?"

"You were right about the whole 'poison chalice' thing. Julie Gates had a go at me at our first meeting, and it's rocked my confidence. It happened in front of the whole team, and I just haven't been able to get my act together since."

"So what are you doing about it? Apart from stewing on it that is."

If anyone else had said that to him, Sam probably would have made short work of the conversation and walked out, but Tony was a close colleague and knew him pretty well.

"That's just it, I know I should just get over it and move on but I'm struggling."

Tony looked thoughtful for a minute and then asked, "Are you open to suggestions?"

"Sure, I'd try a witchdoctor at this point! I feel like I'm going nowhere fast", Sam replied.

"Well for starters, don't be so hard on yourself. You aren't the first person to experience the sharp edge of Julie's tongue and I'm sure you aren't going to be the last. You remind me a little of me a few months back. I felt like I was stuck in a rut. I'd been doing the job for a while but I was not firing. I was having difficulty with some of my peers and was making some bad decisions. It got to the point where I decided to get an executive coach."

Sam, was curious, he'd thought about getting a coach but was not sure how it worked and what it would achieve. "So... did it help?"

"Yes, it did. It was good to have someone who was more objective as a sounding board. My coach got me to do this 360 feedback called LSI. I was initially sceptical but it helped me understand a lot more about how my thinking influenced my behaviour. Some of the stuff that came out of it I knew but there were some surprises as well. I spent the remaining sessions working with my coach to develop some goals and strategies to change some of my less helpful thinking as well as identifying some action I could take to change my behaviour. I've been a convert to the process since. It might be worth you giving it a go."

"Well, it can't hurt."

"I'll email you their contact details. Call them, talk to them and then decide."

"Great, thanks Tony. I appreciate it."

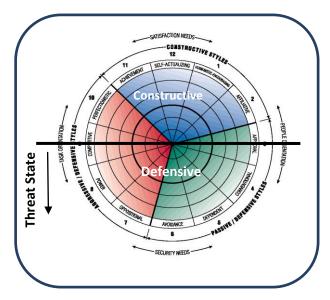
Part 2:	Working	with Sam:	The	Coaching	Process
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Getting into Sam's Head - The Circumplex as a Snapshot

Having had enough of the inner turmoil, Sam sought our coaching services. He needed help and support to work through what was becoming a debilitating issue for him. As a starting point, Sam completed a Life Styles Inventory™ (LSI). The LSI 1 gave us a snapshot of his thinking while the LSI 2 showed us how his behaviour was being perceived by others.

While the LSI 1 is not exactly a *functional Magnetic Resonance Image (fMRI,* the technology used in mapping brain activity), it does provide an opportunity to 'see' something of what was going on in Sam's head. As it specifically looks at the degree to which our thinking and behaving is motivated by Defensive/Security oriented (Threat based) needs or Constructive/Satisfaction oriented (Reward based) needs. It provides a very good symbolic representation that aligns very well with what we know about the neurological basis of thoughts and behaviour.

Figure 3: Circumplex - Constructive and Defensive Styles



Drawing a line on the Circumplex horizontally, as shown in the figure below, marks an important distinction. In interpreting someone's LSI profile, if the colour shows below this line, it indicates Defensive thinking or as in the case of the LSI 2 Defensive behaviour. On the Circumplex the 'fight' impulse is coloured Red and described as Aggressive/Defensive whereas the 'flight' impulse is coloured Green and described as Passive Defensive. In both cases, it is likely that the individual's thinking and subsequent behaviour is a response to or has been motivated by a threat state. There are degrees of course, of our defensive or 'threat state' response. How intense and frequently we think in a defensive way (or not if colour

is above the line) is represented by the percentile rings. The first two rings represent a little bit of colour indicating that our tendency to think or behave in this way is low, the next two rings indicate moderate intensity/visibility and frequency and the last two rings indicate a strong tendency that occurs more frequently.

Using the same figure, if the colour shows up above the line the individual is more likely to be thinking (LSI1) and/or acting (LSI2) in a Constructive way, seeking to meet their satisfaction needs. While it is tempting to equate the notion of a reward state with Constructive thinking, it is perhaps a little too simple. While there is certainly some validity to this perspective as seen in the data presented in the boxed insert on the next page, it could also be argued that: a) there are reward states that provide comfort and immediate gratification without effectiveness and, b) it is possible to think and behave in a Constructive way even though an individual may feel in a threat state. Indeed, being able to operate in a Constructive way even when in a threat state should be one of the goals of any development program.

The Difference 'Blue' Makes - Effectiveness as a Reward State

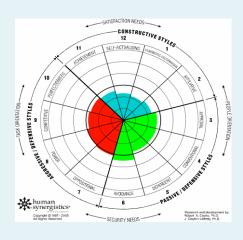
Over the last thirty years, Human Synergistics has collected an extensive body of data that shows a strong correlation between increased Constructive Styles with increased satisfaction, improved quality of relationships and task effectiveness.

Drawing on our LSI client data of 2011 we looked at the LSI profiles of the top and bottom 10% of responses to the questions relating to satisfaction, quality of relationships and task effectiveness of approximately 164,000 clients, and what we see there is that being Constructive does contribute to the reward state.

Satisfaction with work relationships

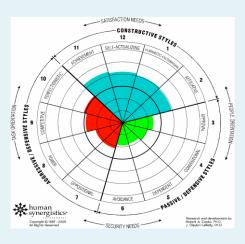
As rated by Self Top 10%

As rated by Self Bottom 10%

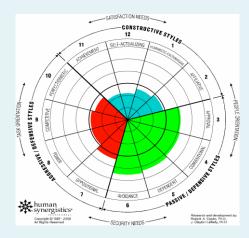


Level of effectiveness in current role

As rated by Others Top 10%



As rated by Others Bottom 10%



Sam's LSI Results

When we began working with Sam this is what his LSI revealed:

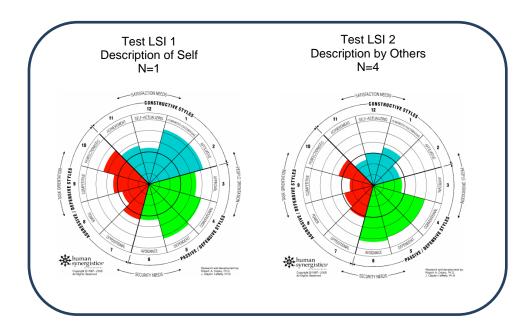
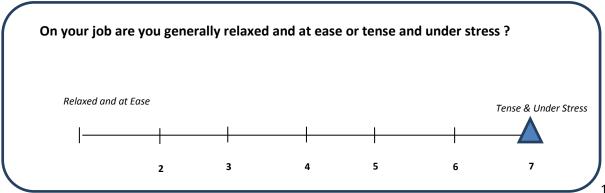


Figure 4 - Sam Wyatt -Test LSI 1 and LSI 2 Profiles

His LSI 1 showed his own assessment describing his thinking patterns, whereas his LSI 2 reflected the perceptions of his boss, direct reports, peers and key stakeholders. One of the advantages of the Circumplex is its depth and ability to provide extensive insight to both client and coach. While we could spend an entire article on interpreting the profile, what follows is a brief interpretation of Sam's LSI profiles based on the data above and on insights that emerged for him through the debriefing discussion.

The first very noticeable thing about Sam's LSI 1 is that it is very expansive with lots of colour in all three clusters. Most of the colour is on the right hand side indicating a more people or relationship orientation. This suggested that when he thought about things he was more inclined to think about it in a way that focused on the relationships and people involved. Interestingly there was as much colour 'above the line' as 'below the line' which indicated that his thinking was motivated by achieving both his Satisfaction and Security needs at that point in time. Add to this, the expansive colour in all clusters, his profile suggested a reasonably high level of stress and inner conflict. This is borne out in the summary perception data at the end of the LSI report where on a 7 point scale measuring stress he rated himself a '7' as "tense and stressed'.



He also rated his satisfaction with being able to manage that stress as a '3' on a 5 point scale indicating that he was only somewhat satisfied with his ability to manage the tense and stressed state in which he found himself.

How satisfied would you say you are with your.....

Ability to manage stress?

Not at all Not too Somewhat Very satisfied Completely satisfied satisfied satisfied

Figure 5: Sam's Satisfaction with his ability to manage stress

There were a number of factors that had contributed to his ability to manage stress including his thinking at that point in time. His primary styles, those that were most characteristic of his thinking were Dependent, followed closely by the Humanistic-Encouraging and Affiliative styles. The Dependent style is characterised by a desire to want to protect himself by looking to others for direction and instruction. Typically, when we are 'in' the Dependent space we feel like our effort does not make a difference, that we cannot make an impact or change things and so we begin to trust others more than ourselves, seeking their direction and instruction as a means of feeling safe.

That he rated himself high in Conventional and Approval also indicated that Sam's thinking was characterised by the need to preserve the status quo by following procedure and not rocking the boat (Conventional) as well as feeling like he needed to keep people happy (Approval). A strong influence in the background was the Perfectionistic style, which for Sam manifested in a number of standards and strictures about who he **should** be or what he **ought** to be doing and what that looked like. He placed himself under a great deal of pressure to meet these exacting standards and would berate himself for not being able to reach them.

Perhaps most interesting is that Sam still felt in touch with his potential and past capacity to develop others and lead teams effectively (Humanistic-Encouraging and Affiliative respectively). In our session he talked about the high Constructive colours in his LSI 1 as representing who he **knew he was at his core**, although he acknowledged he did not feel that he was behaving this way or that he was having Constructive thoughts. The great thing about this was that despite his current headspace, Sam had a reference point for what he was capable of which would be invaluable in the coaching process.

Switching our focus to how others perceived him, Sam's LSI 2 (figure reinforced the old adage 'while we judge ourselves on our intention, others judge us on our action'). It may come as no surprise then that Sam's respondents perceived him as operating in a largely Passive/Defensive way. They described him as 'meek', 'reserved', 'very conventional', 'conforming', 'avoiding conflict' and 'dependent on others'. This was not a great surprise for Sam. If anything it confirmed his own thoughts. For Sam, having the mirror held up and actually seeing a visual representation of what he had, to date, privately believed about himself, gave him a kind of

freedom and confirmed his desire to want to work on developing more adaptive strategies. As the article continues we will discuss our process in working with Sam and how we drew on some of the insights from Neuroscience to help Sam work on his thinking and self-talk. Before this however it is useful to spend some time exploring the idea of what factors promote a threat or reward state.

What Makes Us Feel Threatened?

While we are no longer running away from **actual** Sabre Tooth Tigers (some say a two legged variety has been sighted prowling in some corporate corridors!), potential and actual threats abound in our world. Whether perceived or actual, physical or social, emotional or psychological, if we feel threatened, most of us typically react automatically and in a defensive way. We have come to know these automatic reactions as 'fight', 'flight' and 'freeze' and as has been discussed, these are represented on the Circumplex as Aggressive/Defensive thinking colour coded as Red and Passive/Defensive coded as Green.



Our sensitivity to threat situations may help to explain why defensive behaviours seem to prevail. It may also suggest why on the Circumplex there are eight ways to be defensive and four ways of being Constructive or as one of my colleagues Casey Napper says, 'eight ways of reacting and four ways of responding'.

While these defensive reactions might seem like they work, and make us feel comfortable and safe, they are often sub-

optimal in a work context and can inhibit our ability to perform and fulfil our potential. That is not to say that from time to time these reactions are not necessary and in such cases, no doubt, they may be the difference between safety and harm, but rather that they are not an effective strategy for living a rich and fulfilling life. While the 'Part I' of this article has helped to explain what happens in our brain when we feel threatened, this section references the work of Dr David Rock in exploring the reasons or factors that can move us towards threat rather than a reward state.

Through his research, David developed a new model of human motivation captured in the acronym SCARF. It describes five factors that can move us towards a threat or reward state. Each letter stands for each of the factors and are summarised below.

The SCARF Model©: Rock, D. (2009) Your Brain at Work, Collins, New York.

Status	Relates to how we perceive our position in relation others we have a relationship with such as our boss, peers, direct reports, friends and family. It can include job titles, public and private forms of recognition or criticism, salary and any other aspects associated with status.
Certainty	Relates to how sure we feel about events/people/situations that affect us. The higher the level of uncertainty, the more likely a threat state will be created
Autonomy	Relates to the level of control we have over the decisions that affect us. The less autonomous we feel, the more engaged and confident we tend to be. In general the more empowered people feel the more likely they are to feel like their effort is making a difference.
Relatedness	Relates to the quality of our relationships with others. Our brain will categorise people into either a friend or foe. If they are a foe, a different circuit gets activated that that when we perceive someone as a friend.
Fairness	Relates to our sense of justice and right and wrong and how this affects us. Our perception of whether we have been dealt with fairly can motivate and keep us engaged or it can move us towards a threat state where we are more likely to respond in a defensive way.

what is important to Values direction and else to act or tell them Constant checking ineasy....Let's go with and confirmation of "I'm not sure...I'm asking for direction Behaves by...(LSI2) waits for someone accommodating instruction from Pleasing others, boosting others' decisions/tasks & procedures and checks rules ■ Inaction, sits on Consults with your idea" their ideas others others status Passive/ Defensive someone else take others. Inclination to raise the status can blend into the Conscious of their anxiety and threat by "I'm happy to let of others so they others, and avoiding feel comfortable, the lead, I don't there are others being too visible tolerate uncertainty. who are better" Finds it difficult to threatened by and given too Thinks....(LSI 1 compared to Seeks to contain giving control to much status. background. Inferior Status limitations Would feel looking bad. Blocks change that work...what I think Behaves by...(LSI2) a way of assuming you need to do ..." Pushes their point Highlighting flaws in other's work as Attacking other's Interrupts, talks over, takes over ideas, putting they have not thought of or 'That won't them down. superiority. sponsored. Aggressive/Defensive the task. forward through taking control preserving status tolerate uncertainty, winner, you're a which I'd rather Motivation is to superior status "If you're not a Finds it difficult to creating certainty threatened by threat/anxiety by loser I know meet security Superior Status equates with losing status seeks to contain Would feel needs by saccess of the task. be." Seeks to understand **Behaves by...(LSI2)** emphasising their Listening, learning, from curiosity not Focuses on where make a difference. work together?" collaborate and asking questions Using inclusive involve others, "What do you " How can we their effort will language and participative contribution. methods to potential of from anxiety. everyone's value and think?" Constructive you and me, both our appreciated but can and open to change sit with ambiguity "there is room for contributions are Equal Status Certainty is important" Certainty SCARF Status

If we apply the SCARF model to the Circumplex, we see these factors might be expressed through each of the three clusters.

SCARF	Const	Constructive	Aggressive/ Defensive	Defensive	Passive/	Passive/ Defensive
	Thinks(LSI 1)	Behaves by(LS12)	Thinks(LSI 1)	Behaves by(LSI2)	Thinks(LSI 1)	Behaves by(LSI2)
Autonomy	"A core belief and key to developing both myself and	Involves others in setting goals.Provides clarity	"Depends on what you meanessential for me but not everyone can	 Micro-managing team or project members 	"Autonomy is really important as long as I can check what I am	Asks for regular meetings to check that their manager is happy
	others. Setting my goals increases ownership and helps me feel like my effort	about role boundaries and spheres of influence/ Decision making	handle it so it's easier for me just to give them the answer or tell them what to do"	Focus on detail, Copious requests	doing with someone, and the procedures are really clear. You can have too much	with their work.
	makes a difference." Awareness that not	■ Being onen to	■ Values relationshins	information Reening their	autonomy you know" Relationships with	Maintain their guard un
Relatedness	all people are the				others used to minimise threat to	in relationships by
	appreciates the value that diversity can	Suspending	 More easily forms relationships with 	conversation and staying away from	themselves.	agreement or staying in
	bring.	judgement until they have had a chance to get to	those they can feel superior with.	anything too personal or "fluffy'	 Would feel threatened by those who are 	tire background
		know the person better	Would feel threatened by	 Can be rigid and dogmatic which makes it difficult 	domineering, loud and aggressive.	
			people who challenged their	to form relationships with		
			status	differing views		
		 Listens to all 	 Can be quite black 	 Push back/Block 	Very concerned with	If they feel they have
Fairness	Core belief is fairness and ethical	politics of view True to their values	and wince about what is right and what is wrong.	 Be argumentative 	others than for them	been unfairly treated, they may complain and
	vith goodwill and respect even in cases	Respectfully and mindfully honestTransparent in	Fairness threats	 Challenge and criticise 	don't rock the boat or upset anyone	ank to then intents about it but may be unlikely to bring the
	where tough decisions need to be	actions and process	recognition, missing out on promotions	Complain and anneal		issue to a head for fear of conflict
	taken.		or having their ideas bypassed			

The SCARF model provides another lens through which we can interpret the LSI. When used in conjunction with the Circumplex, it helps extend our understanding about which underlying factors may be moving our clients towards defensive threat state thinking and behaving. It also helps us to identify the shifts to the thinking that coaching needs to focus on/balance or develop.

If we applied SCARF to Sam we can see that the confrontation in the meeting with Julie challenged his *Status* and in fact left him with a diminished sense of status *he felt swatted*, *embarrassed*. Part of the issue here is that he lacked confidence in his own ability and over the years had learnt to stay safe by submitting to those who he perceived as being more authoritative with perceived greater status. So at least part of our work together needed to challenge this self-limiting belief and balance it or replace it with one that was more affirming that would enable him to hold his ground, maintain his status.

In Sam's case, offsetting the anxiety generated by the diminished status would require getting him to focus on realistic actions he could take as well as getting him to focus his effort where it would make the most difference.

Part 3: Rewiring Self Talk to Be More Constructive: Strategies for Coaching

Pay Attention! It Matters...

Having learnt a great deal about what was happening for Sam neurologically and how this had impacted his thinking and his behaviour through the LSI, it was time to focus on helping Sam develop some strategies and tools to help reduce his anxiety and increase his ability to be more Constructive, satisfied and effective.

After a lengthy discussion with Sam about his needs and goals for coaching, we agreed to focus on his LSI 1, his thinking. While he really wanted his colleagues to perceive him in a more Constructive way, he realised that just working on the LSI 2 would not lead to long term sustainable change because the source of his problems would not have been addressed. We needed to help him refocus his self-talk and reframe his self-limiting beliefs as a priority.

Working on our thinking is an important development priority if we want to sustain change. Like Sam we all have developed a series of habits that relieve our anxiety in stressful moments. Some of them can be healthy and effective and others not so. In Sam's case, he tended to retreat, make himself invisible by avoiding people, and distancing himself from his colleagues. Not only did these behaviours make him feel bad it also meant he was not being true to himself or delivering against his objectives. He knew that none of these strategies really helped because while he might have gained some momentary relief, it did nothing to address the on-going problem.

Jeffrey Schwartz noted author, and neuroplasticity researcher explains why it can be so hard to change our long held habits or just simply "snap out" of some of our less effective ways of reacting to stress. He identifies three factors that make changing habits difficult.

The first is **Hebbs law** which states that *cells that fire together wire together*, Schwartz explains:

"...when nerve cells are activated in the same pattern repeatedly, they eventually form a brain circuit. Once established the brain areas involved in the circuit respond automatically every time a similar situation arises. This causes the circuit to become stronger – this is how habits like riding a bike, learning to drink when stressed learning how to walk after a stroke are created and maintained." Schwartz, Gladding (2011).

If we only engage in the behaviour occasionally, the circuit is weak and so we are less likely to feel like the behaviour is out of our control. The more we engage in the behaviour the stronger the circuit gets, which in turn ramps up other areas of our brain setting up cravings or triggering a greater compulsion to act in that same way. Schwartz refers to the second factor as the **Quantum Zeno** effect which effectively acts like the training wheels on a bicycle, holding the activated brain circuits in place long enough for 'wiring' to take effect. We enable the Quantum Zeno effect through how we focus our attention!

If we are after a 'silver bullet' then attention is it! It changes everything. This is the third factor, Schwartz refers to it as *Attention Density* the longer and more frequently we sustain our attention on something the greater the likelihood of it being wired into our brain. (Schwartz,Gladding 2011).

The good news is that *what* we pay attention to and *how,* is under our control and something that we can do something about. It's not necessarily easy, since most times we are up against a circuit that has been developed and honed over a lifetime, but it is imminently doable.

Helping Sam understand and realise this was an important part of the coaching process. Having referred to insights from neuroscience about what drives emotion generation, the next step is to explore how insights in the area of emotional regulation could help Sam develop alternative adaptive strategies when faced with negative, potentially threatening situations.

There are a range of different types of emotional regulation strategies ranging from Situation selection (avoiding the triggers), to Cognitive change and Response modulation. The strategies in our coaching process drew from the cognitive change and response modulation research. The insights that informed our thinking about how to support Sam included:

- Labelling studies into Affect Labelling, have found that "putting feelings into words" actually diminishes the emotional arousal associated with increased activity in the Amygdala. This decreased activity seems to correspond with an increased level of activity in the Right Ventrolateral Pre Frontal Cortex (RVLPFC). It is this part of our Executive centre that can be thought of as our 'handbrake'. The activity from the RVLPFC connects with another part of the PFC called the Medial Prefrontal Cortex (MPFC) to enable us to use language and other symbolic processes to facilitate a greater level of 'limbic control. Basically what this means is that just naming in a few words or writing about what we are feeling can help calm the Amygdala.
- Reappraisal –or what we might know as 'reframing'. This technique involves changing how we perceive or interpret an event to a more positive light to diminish intensity of emotional arousal. Another form of re-appraisal has emerged through the work of Ethan Kross and Ozlem Adyuk (2010) this involves the process of using a self-distancing approach to working through negative experiences versus a self-immersion perspective. The former involves reframing/reconstruing an experience from the perspective of an observer whereas the latter leads to a recounting of the experience by being 'in it'. Research by Kross and his associates (2010) have found that the self-distancing approach leads to decreased negative affect and lower levels of physiological markers associated with stress like lower levels of blood pressure.
- **Mindfulness Techniques.** Mindfulness can be understood as a practice that encourages the individual to 'accept and allow' (Ochsner, 2008) their feelings. It involves engaging with their feelings, through increased awareness and acknowledgement without reacting from the feelings. There is evidence to suggest that mindfulness techniques that encourage self-awareness of emotions through introspection can reduce the intensity of emotional arousal by decreasing activity in the left Amygdala. (Herwig *et* al., 2009). Another study by Garland, Gaylord and Fredrickson (2011) found that in expanding one's non-judgemental state of mind, mindfulness can facilitate an individual's capacity for positive appraisal.

Bringing it all together in Coaching Sam

Our work with Sam continued over a period of 18 months. During this time we met once a week initially, when he most needed support, and then fortnightly and eventually monthly. While there are a number of coaching models, frameworks and formulas out there for developing leaders, one simple formula that is particularly helpful and useful in explaining how we worked with Sam was developed some years ago by Timothy Gallwey (2001).

Performance = Potential - Interference

One of the objectives of coaching or any development program is to help clients improve their performance (effectiveness) by helping them to realise their potential. To do that we need to assist clients define their hopes and personal vision in terms of goals as well as help them develop their understanding about the triggers and threat responses that run interference with their potential and performance.

Another important aspect of coaching included helping Sam to realise that his defensive thinking was *a part* of him, not all of who he was or could be. There was a part of him that was feeling anxious and responded in a Passive Defensive way, but it was not all of who he was or could be.

This is an important shift. It moves a client from being 'in' the behaviour/thinking (immersed) to 'working on it'. This is a form of reappraisal. If we can help a client make this shift, it helps them to realise that they may have access to additional inner resources that they were not aware of, and that are not caught up in the compulsion of the limiting thinking and behaviour. For example, Sam was intimidated by Julie, and when he was around her he was not able to speak his mind or hold his ground. In the downward spiral, Sam's thinking and self-perception became absolute. He began to believe that he was **generally** always hopeless and was **never** able to speak his mind to **anybody**. He was 'in' it, immersed in his limitations. When he realised that there were only a few people with whom this was true (Julie being one of them) he was able to see a bigger picture, one in which he could begin to 'work on' the self-limiting thinking-putting him back in the driver's seat, rather than being driven by it.

Building on Gallwey's formula, the table below shows some of our coaching process in working with Sam.

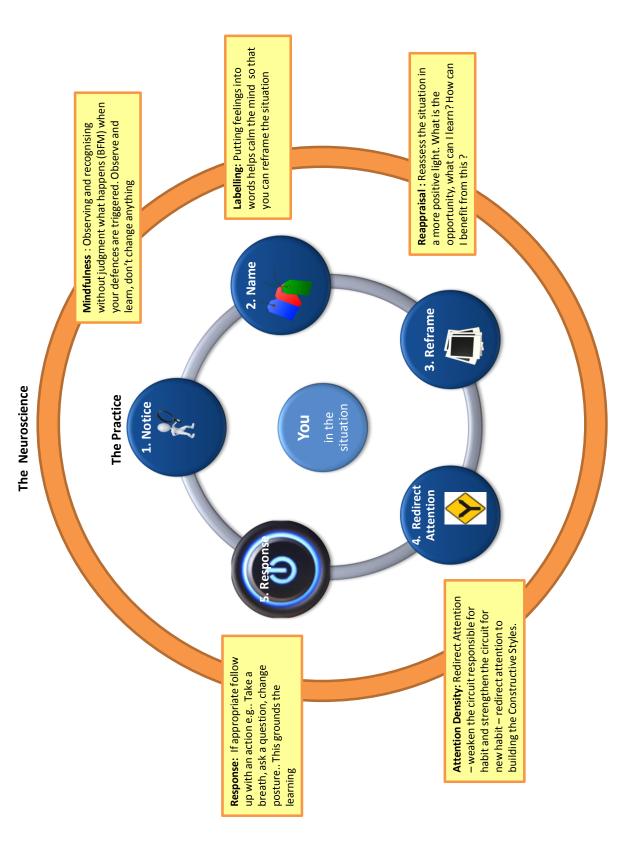
Performance	Potential	Interference
 Define Performance Goals that are specific and measurable. Identify measures of success (how would he know he had achieved this). This is important particularly where the performance goal is behavioural. 	 Define values that were important to him and translate into specific actionable behaviours. Identify his hopes and aspirations. Make it concrete by (Drawing, vision board, writing a letter to self in the future). Identify existing strengths (sometimes clients find this hard if in a down space, it can be useful to find a past reference). This can also be done through online assessments such as the VIA strengths finder. Identify which Constructive styles would be most useful in helping him achieve his aspirations and performance goals. Identify strategies to build. 	 Help him learn to recognise the cues of how self-limiting thinking and behaviour shows up in his work (task) and interacting with people. This is done initially through reflection and journaling. Help to identify triggers and understand how a Defensive response (Circumplex styles) meet security needs triggered by the situation. We need to identify the function of the Defensive thinking/behaviour in order to find a 'Blue' alternative Help develop alternative 'in the moment' prompts/actions to redirect self-limiting thinking into the Blue. Behavioural Rehearsal- Practice the new behaviours.

Review, Reflect and Adapt

In addition to the process described above, combining the key insights from the research cited above we came up with a five step model for 'Talking Your Self Blue" which we called **ReSet**. As it turns out, unbeknown to us, it was a lot like Jeffrey Schwarz' *Brain Lock* cognitive behavioural approach to dealing with Obsessive Compulsive Disorder (OCD) (1996) although there are some key differences.

One of the key differences is this approach was specifically designed for working with the Circumplex and building the Constructive thinking styles. **ReSet** is less of a model and more of a **practice**, the more we apply it in responding to stress and threat situations, the easier it becomes. We sometimes forget that it takes effort before something becomes effortless. The key is to re-focus our attention often enough and long enough that we can build a new strong brain circuit to replace the old habit. The diagram below outlines the ReSet practice and the insights from Neuroscience which underpins it.

ReSeT - Talking Your Self Blue



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How - Tools	LSI Mat – using the mat as a way of encouraging people to get to know or recognise what runs through their mind, how they feel and what they experience in their body is extremely effective. When they are conscious of what it looks and feels like they are more likely to recognise it in the moment. Using something like the mat in coaching, in a safe environment helps them practice the practice. Reflection Log/Journal – Ask clients to purchase a journal or diary or provide them with one. I provide my clients with a Reflection Log. They can use this or their own diary. After debriefing them ask them to observe themselves interacting with their colleagues, boss, direct reports, partners, kids. Encouraging them to observe for at least one or two weeks is important. This uses nearly all of the steps and is a truly amazing process if the client can commit. Clients will learn so much in doing this and it can have a profound impact on how they see themselves in their situation. It teaches them to stay connected with themselves as they observe and creates some space. It is part of shifting from being in the thinking /behaving to working on the thinking and behaving. "Signals" Sheet – this provides examples of above and below the line thinking and behaving in terms of what might happen in our body, what we are thinking and the language we might use based on each of the three clusters.	Using their diary, journal or reflection log, clients write down their observations and what they have noticed about the feelings they have in different situations. I have found that sometimes clients aren't able to access feeling words when stressed. In some cases they may have not developed a feelings vocabulary so I provide them with a list of feeling words that describe both expansive and constraining feelings. Encourage them to match their feelings to the Blue, Red and Green thinking	Reframing Questions: One way of doing this is to encourage clients to ask themselves questions like: "What can I learn from this/this person?" "What opportunity does this provide me with?"
How -Practice	Observing and recognising without judgment what happens (Body Feelings Mind) when your defences are triggered. Observe and learn about it, don't change anything. Advising clients just to observe and not change anything, seems to take the pressure off and provides them with the freedom and permission just to observe from a place of curiosity and interest rather than from place of judgement	Putting feelings into words helps calm the mind so that you can reframe the situation	This is about 're-perceiving' the situation in a more positive light.
What	1. Notice	2. Name	3. Reframe

		Circuit Breaker Questions This is a tool that was originally developed by a fellow practitioner, Rollo Browne when we collaborated on a project. I have adapted slightly and provide it to clients as a way of helping them circuit break their automatic defensive thinking. The questions are designed around the possibility and opportunity as they relate to each specific Circumplex Style.
Reframe		Perceptual Positioning: This is a technique derived from Neuro-Linguistic Programming (NLP). The method can vary but essentially it involves seeing the same situation from different perspectives: 1st position – How I see it 2nd Position – How they might see it 3rd Position - The 'fly on the wall perspective' There is a fourth perspective which is how "we could see it together". This is a great process to work through with a client as sometimes the client's initial response to 'how might they see it?' is an automatic "I don't know', getting them to take a minute to consider the possibilities slows down their habitual thinking and can lead to some great insights.
4. Redirect Attention	Redirect your attention on the Constructive styles by using one or more of your 'escape hatches' – words associated with each Blue Style . This redirects or refocuses thoughts on the Constructive Styles	This involves either getting the client to come up with a single word or phrase they associate with each of the Blue styles so that they can call on this to get them back to a Blue space. The notion of these words as providing an 'escape hatch' and the words associated with them came from a former Human Synergistics colleague Margaret Pimblett. The words she suggested that people associate with each of the Constructive styles (which people seem to love) are:
		"GOAL" - Achievement (What is my goal?)
		"I"- Self Actualizing (What do I think? What do I value? etc)
		"You" – Humanistic-Encouraging (How can I include you? support you?)
		" We" - Affiliative (How can we achieve this? How can we work together?)
5. Act	If appropriate follow up with an action e.g. Take a breath, ask a question, change posture	There is no specific tool or strategy for this other than discussing with your client the potential options available to them in a range of scenarios. There is not always an action, sometimes the client is best served by doing nothing, which is fine also.

Practice makes Progress

While it did not happen overnight by using this process and consistently practicing these steps in conjunction with other coaching strategies, Sam did change his thinking. His increased confidence led to a higher performance rating from his boss and great feedback from his team. The LSI 1 Re-test results reflect this change.

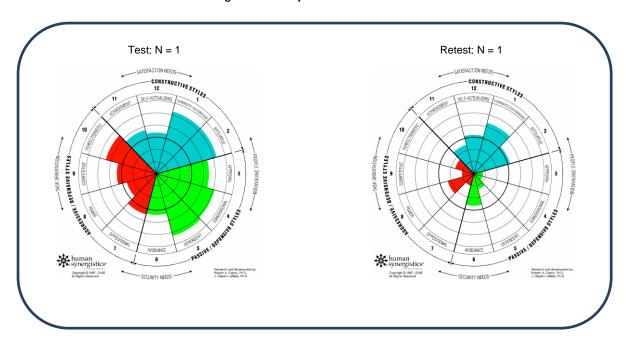
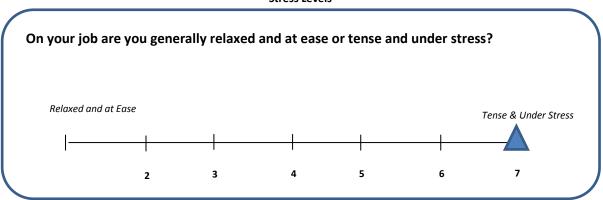


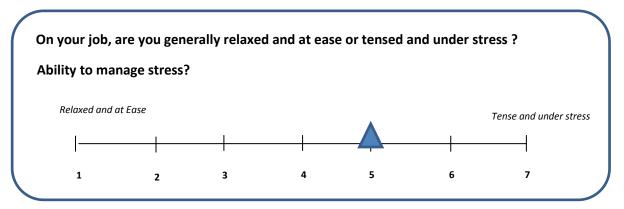
Figure 6 Sam Wyatt LSI 1 Test- Retest Data

While the data shows that there was a decrease in all clusters including the Constructive styles, the significant decrease in the Defensive styles indicates that the level of Constructive styles that remains in a sense more 'solid' and not being undermined by or diluted by the self-limiting and Defensive thinking that was there in the initial test.

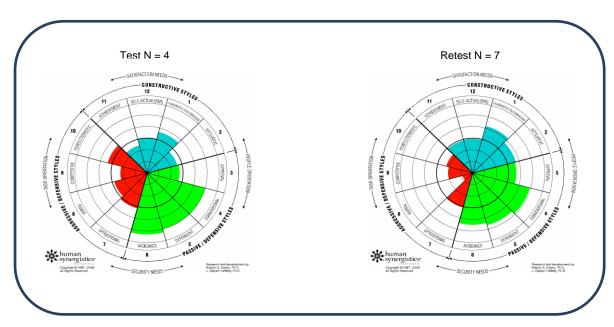
That this was a positive shift shows in the Test-Retest data relating to his stress levels and his ability to manage this stress shown in figure 7.

Figure 7 : Sam Wyatt LSI Summary Perception Test- Retest Data Stress Levels





Sam's LSI 2, while not as dramatic in terms of progress and change, also showed a change in how he was being perceived. Most of his Constructive styles increased, while all the Aggressive Defensive styles decreased, most notably the Perfectionistic style. While the Avoidance, Dependence and Conventional Styles decreased, interestingly the Approval style increased. He was on track. While initially Sam was a little disappointed that his LSI 2 did not show the same quantum of change, he realised that much of what he had focused on was on his internal thinking patterns. Now that he had built some capacity he felt ready to work on strategies that would help him to 'show' himself more.



Conclusion

"Lulled in the countless chambers of the brain, our thoughts are linked by many a hidden chain; awake but one, and in, what myriads rise!" **Alexander Pope**

Neuroscience is a fascinating, complex and ever-evolving field. The discoveries coming to light are at once exciting to the imagination and challenging opportunities to our minds. Challenging because we still need to learn how the insights from this research can be applied in a practical way in developing leaders and strengthening effectiveness.

There is much in Neuroscience (in my view) that has confirmed what psychology has taught us about the workings of the mind and human behaviour, however there are also some 'new news' and significant surprises about how the brain works and how this impacts the way we live our lives.

This paper is intended to assist Human Synergistics accredited practitioner, coaches and change agents make connections between Neuroscience and the Circumplex. We hope that it prompts you to experiment with some of the suggested strategies and to join us in continuing to explore this new frontier in leadership development.

Comments and Feedback are most welcome!

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