



Strangers in work clothes.

A STUDY OF HOW THE BRAIN BEHAVES WITHIN TEAM DYNAMICS.



Contents

1. Executive Summary	3 - 5
2. Tl;dr	6 - 8
3. The People Puzzle	9 - 13
4. Cold Pressor Test	14 - 16
5. Data Points, Learnings & Questions	17 - 35
5.1. Five ways the brain behaves	
5.2. Four critical questions	
6. The Big Headlines	36 - 48
7. Six Lessons of Leadership	49 - 55
8. Change Is A Human Endeavour	56 - 63
9. Without Whom	64 - 65
10. Appendix	66 - 78
10.1. Methodology	
10.2. Phases of the People Puzzle	
10.3. Brainsights & brainwaves	

201

Team collaboration & cohesion are in crisis.

In association with *Brainsights*, we created an experiment to understand exactly why this crisis exists, and what all leaders can do about it.

This is what we found out.

Brainsights®



Executive Summary

25 billion work hours are lost annually in ineffective collaboration across the Fortune 500 according to Atlassian 'State of Teams' report 2024².

All too often, teams do not become greater than the sum of their parts, despite the effort and hard work put into collaboration, and all the talk of only employing “A players”.

What's missing isn't talent or effort but how teams actually connect, align and think together.

² <https://www.atlassian.com/blog/state-of-teams-2024>



As organizations chase for effectiveness and impact, the more we understand how to elevate teamwork, the higher the performance we can strive for.

Collaboration isn't a process problem, it's one rooted in how our brains respond under pressure, confusion and shared goals.

Through our unique experiential research we are able to show how the brain fights its way through confusion to clarity, how it contributes to a shared 'brain bank', and how, ultimately, a team is able to engineer a slipstream that increases joy and team cohesion.

With this knowledge we can help lead our teams to more innovative thinking, better problem solving, cohesion and increased impact on the business.

These insights don't just explain why some teams outperform others but they reveal how to intentionally design for it.





02

tl;dr

If you read nothing else, read this.

Why?

The only action during the People Puzzle is in people's brains and it leads to so much self-discovery and insight, so we decided to see what goes on and what it tells us about how people work together, and measure the emotional impact of collaboration in teams.

What's Inside The Brain?

Seven independent waves that show how we're thinking in specific working scenarios and phases of being a team.

What Did You See?

Lack of clarity puts a huge strain on the cognitive load of the brain and it works really hard to gain a full understanding of what to do.

This can be about 50% of the time spent with a challenge.

Once clarity is found, brains can begin to work in synchronization with each other, which reduces stress, releases oxytocin (the love hormone) as indicated by the Cold Pressor Test, creating a sense of group bonding and empathy that improves and accelerates team cohesion.

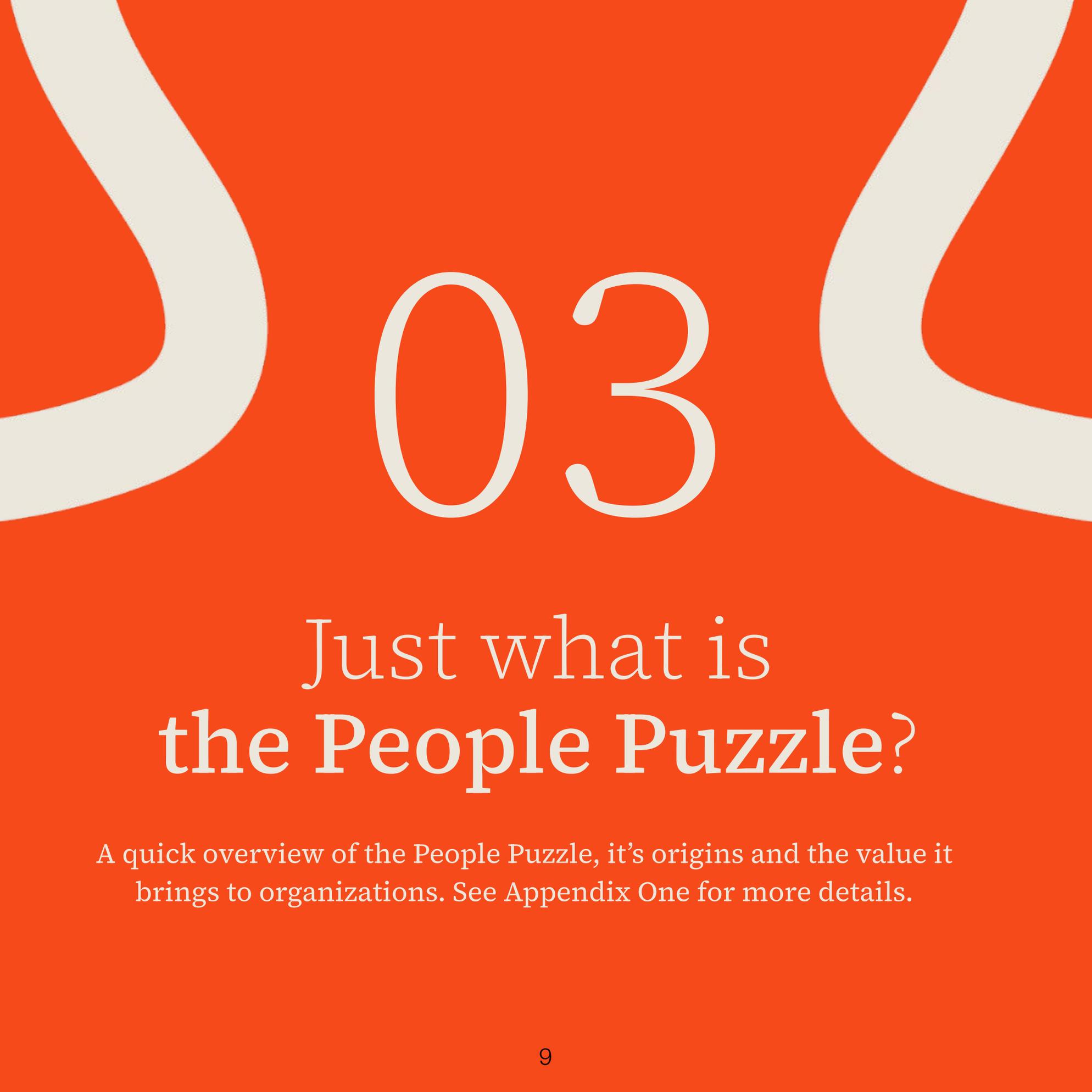
This bonding also produces extra cognitive load for those excluded.

Three Things To Remember

1. **Teams are strangers in work clothes** and can easily fail;
2. **Shared intent** is the ultimate tool for team cohesion;
3. **A cognitive-slipstream** happens and is a catalyst to innovative thinking.





The background is a solid orange color. On the left and right sides, there are large, white, stylized puzzle pieces that appear to be part of a larger puzzle. The number '03' is centered in the upper half of the page in a large, white, serif font.

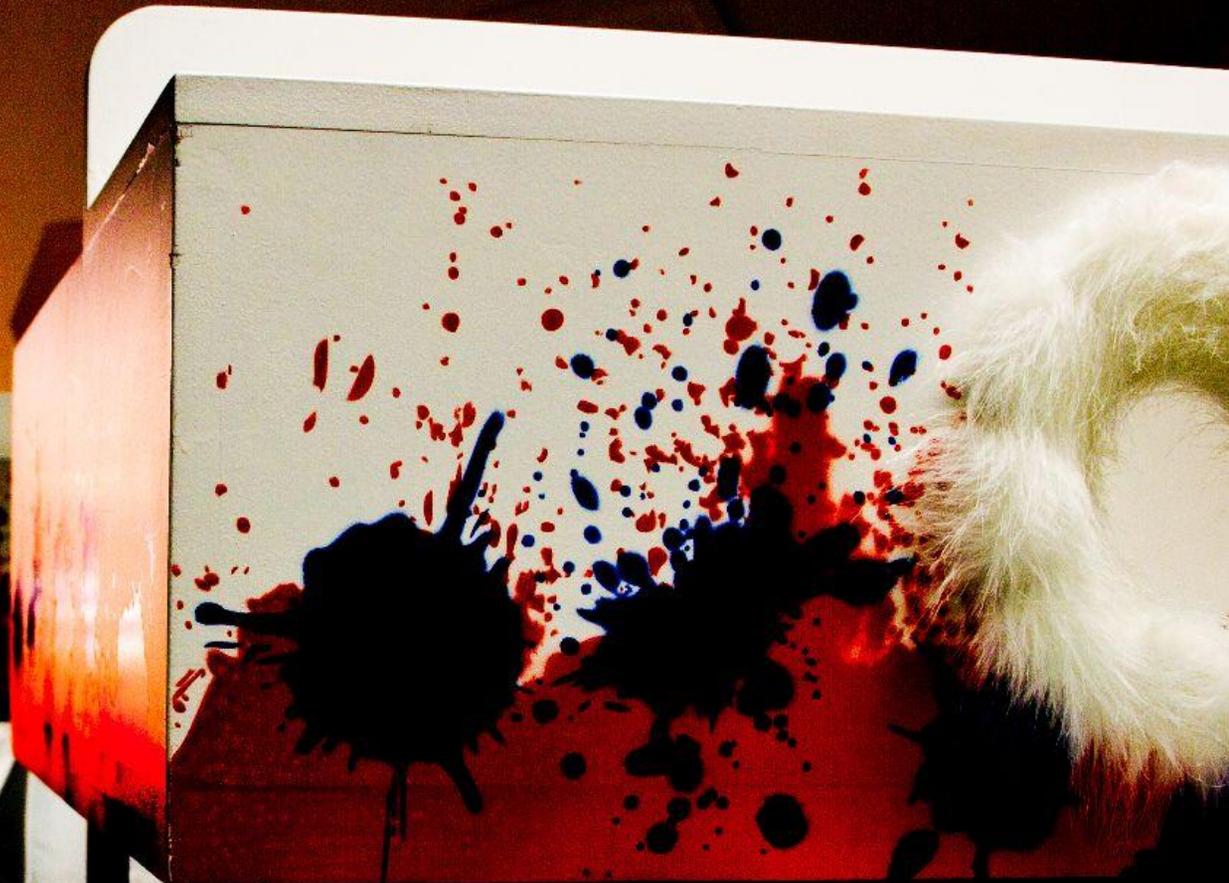
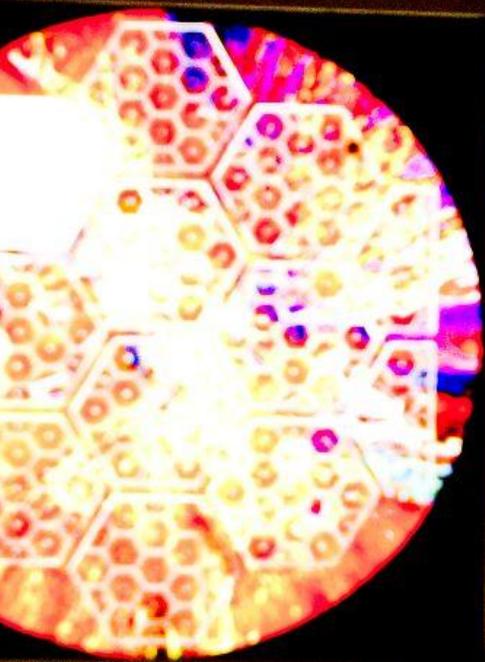
03

Just what is the People Puzzle?

A quick overview of the People Puzzle, it's origins and the value it brings to organizations. See Appendix One for more details.

People

Puzzle



Two continents, multiple decades
& thousands of participants.



For nearly twenty years, the People Puzzle has been used by major corporations to diagnose disruptive performance patterns, driven by human nature, within teams.

It provides a clear set of tools (Edges First Approach™) to disrupt those emotional behaviours, understand why they exist and help to repair them for the benefit of the team.





Experiential Learning

Participants are engaged in interactive, hands-on activities that mirror real-world challenges, promoting deep understanding and retention of concepts.

Core Components

1

**2 hour in person
experiential workshop**

2

8, 10 or 12 people

3

**One objective;
Complete the Puzzle.**

4

**Three phases observable
during the experience.**

5

**A journey of behaviours
from confusion to cohesion.**

6

**Edges First Approach to
embed daily habits.**





04

What is the Cold Pressor Test?

A quick overview of the Cold Pressor Test and how we used it to uncover revealing data. See Appendix One for more details.

People

Puzzle

Measuring the 'love hormone'



The Hypothesis

It was our belief that the shared experience of the Puzzle exercise would increase pain tolerance of the individuals. This is associated with elevated levels of oxytocin due to bonding and increased empathy after the group activity.

The Test

We asked all participants to immerse their hand into a bucket of ice water and keep it there for as long as possible. This created a benchmark measure of their pain tolerance before the Puzzle starts. The time was self-recorded.

This was replicated *immediately after* the Puzzle as well.

The Measurement

It is important to note, the cold pressor test (CPT) does not directly *measure* oxytocin. Rather it is a well-established pain and stress induction method used in research to explore the role of oxytocin in pain perception and stress regulation.

Times were recorded *within-subject* rather than *between-subject* designs, comparing an individual's times before/after the Puzzle rather than with each other.



05

Data Points, Learnings & Critical Questions.

The EEG results were clear and provided a road map for further observations. See Appendix One for more details.

People

Puzzle



5 workshops.
60 participants.
Hundreds of observations.
Millions of data points.



60 Participants. 5 Groups. Clear + compelling results.

Our readings from the EEG data helps us to understand the peaks and valleys of how the brain functions in a microcosm of the daily grind in the workplace.

While the People Puzzle is a highly exaggerated example of the workplace, we are connected by the simple fact that all we are ever asked to do in our daily functional job is solve a problem.

How can our reading of the EEG data points help us understand our problem-solving thought patterns better?



05.1

FIVE

How The Brain Behaves.

There were clear behaviours within these teams of strangers that completely mirrored the patterns of established teams.

01 / 05

Collaboration and teamwork are not just abstract concepts of effectiveness.

The Observation

The brain clearly reveals this in how it morphs and adapts as teams are created and function.



+300%

The Observation

Participants showed a 300% increase in brain synchrony (from 0.05 to 0.2) as the People Puzzle task became more clear through self-discovery and insight.



02 / 05

There is joy, but also isolation, in teams coming together.

The Observation

Brainwaves show a cognitive slipstream is created, but this puts those excluded under stress.



+25%

The Observation

Those excluded from the newly formed teams were observed putting in 25% more cognitive effort, but with worse outcomes, in comparison.



03 / 05

Working together transforms focus and internal motivations to one of shared intent and innovative opportunities.

The Observation

The brain takes a huge sigh of relief.



+23%

The Observation

Those working together saw 23% more spikes in gamma waves, which are markers of changes from individual concentration to collective emotional resonance.



04 / 05

When pressure hits, teams diverge. One finds a rhythm in clarity, the other loses it.

The Observation

There is an inflection point where the level of cognitive load required drops as more information is obtained. Leadership EQ needs to be attuned to this.



+39 seconds

The Observation

39 seconds differential seen in the Cold Pressor Test, between those who experienced cognitive collaboration vs those who felt isolated by the newly formed team.

The inflection point also shows the optimal brain having stable theta waves.



05 / 05

Teams that connect more deeply and focus can handle more stress.

The Observation

There was, on average, a 17 second increase in pain tolerance in the Cold Pressor Test.



+82%

The Observation

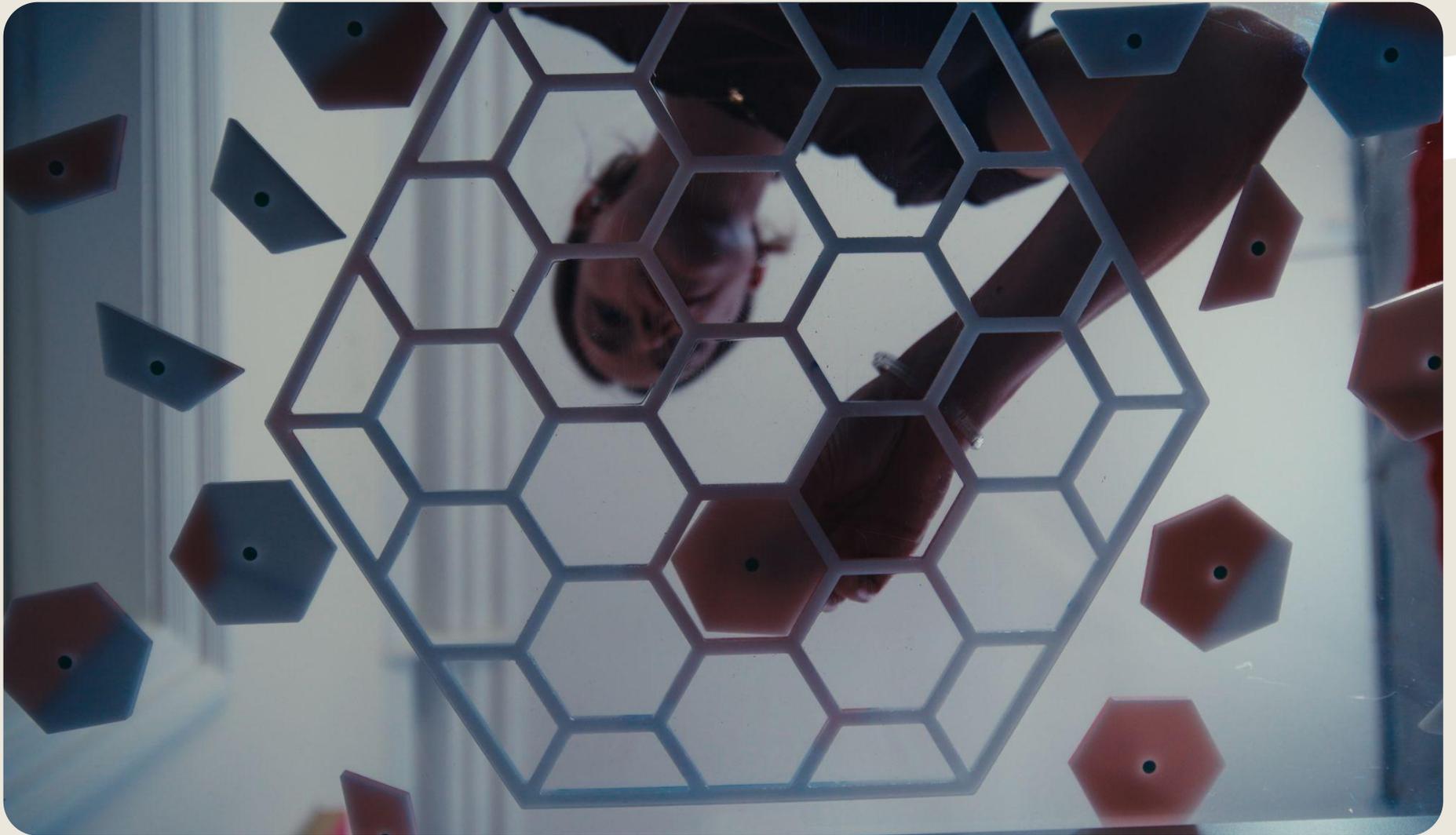
82% of all participants showed an increase in pain tolerance immediately after the team bonding People Puzzle experience, indicating higher levels of oxytocin due to the positive benefits of cognitive collaboration.



05.2

4 Critical Questions (for you to ponder).

These behaviours create four critical questions about a team's dynamic and the individuals within it.



A

Are your leaders afraid to lead because they are so caught up in their own competitive thinking?



B

How deep does the psychological safety of your team really run, if it can be so easily knocked off balance?



C

What assumptions are driving their work, simply due to the lack of clarity?



D

How much impact do *Authority & Action biases* have on your team?



06

So what are the
big headlines?

Reading the brain is one thing, but, when combined with our reading of the **observed behaviours**, it reveals many insights.

Nearly 20 years of observing behaviour during the People Puzzle have combined with the EEG data of this research to enable us to answer some important aspects of team cohesion.

Across all five groups of our research, we clearly saw that these teams of 12 strangers performed as well as, and in some instances better than, the organizational teams that regularly come through and experience the People Puzzle.

Teams filled with “A players”, teams that have been together for years, teams with institutional knowledge, and teams where people are actually friends outside of work.

We set out to understand exactly where this disconnection within the team dynamic comes from; how does this emotional distance from one team member to another reveal itself; and exactly how the blueprints of human nature are to blame.

The Outcome: 3 Key Narratives.





3 Key Narratives

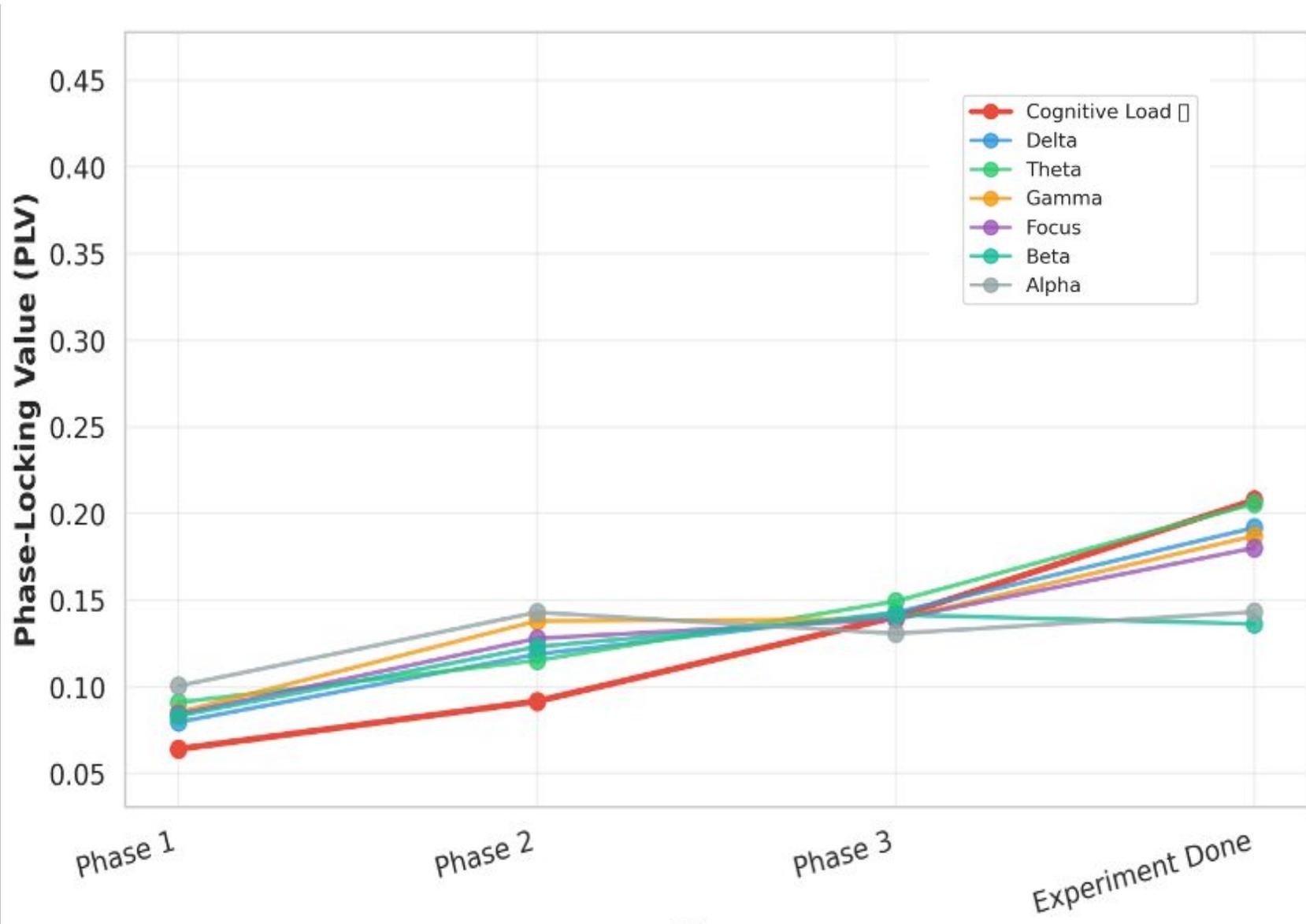
People enjoy collaboration.

Over the course of the People Puzzle experience, the Phase-Locking Value (PLV) of brainwaves reached greater synchronization across all metrics.

In addition to this synchronicity, gamma (emotional resonance) peaked at the end of the task, signalling a clear sign of shared emotional experience having completed the Puzzle.



The higher the line, the more in synch + happier the brain.



Neural Synchrony Progression Acrosses Phases





3 Key Narratives

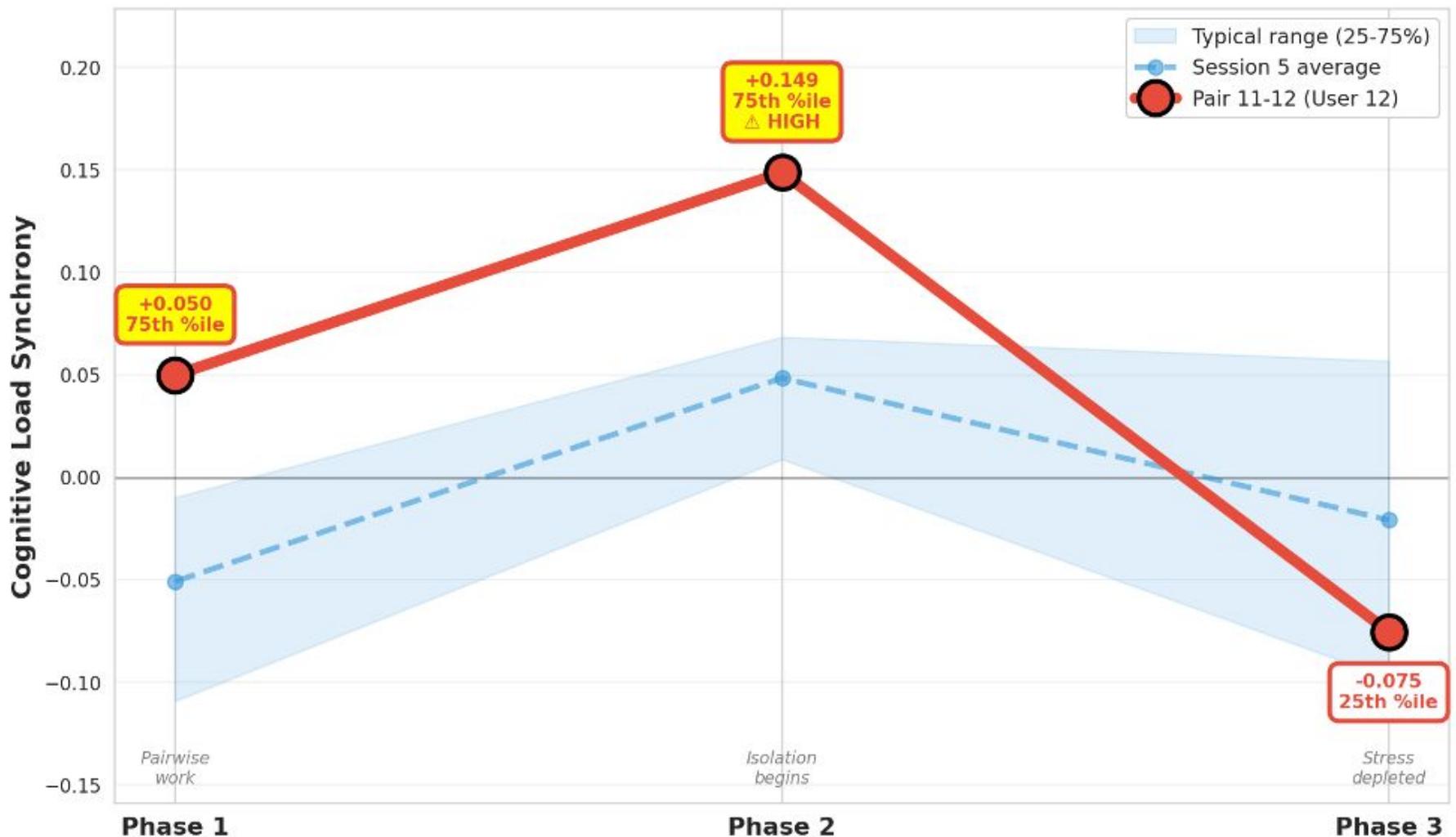
A cognitive slipstream

Teams, when collaborating on a neural scale, and not just ‘co-working’, naturally create a cognitive slipstream with, and for, their mental efforts. As the team learns and iterates, it takes on a mind of its own and creates a list of “who knows what” within the team.

The release of this cognitive load, putting down some information because you know the team ‘has it’, helps to repair the cracks in effectiveness, and allows for more expansive thinking from every individual.



A Cognitive Slipstream Is Created

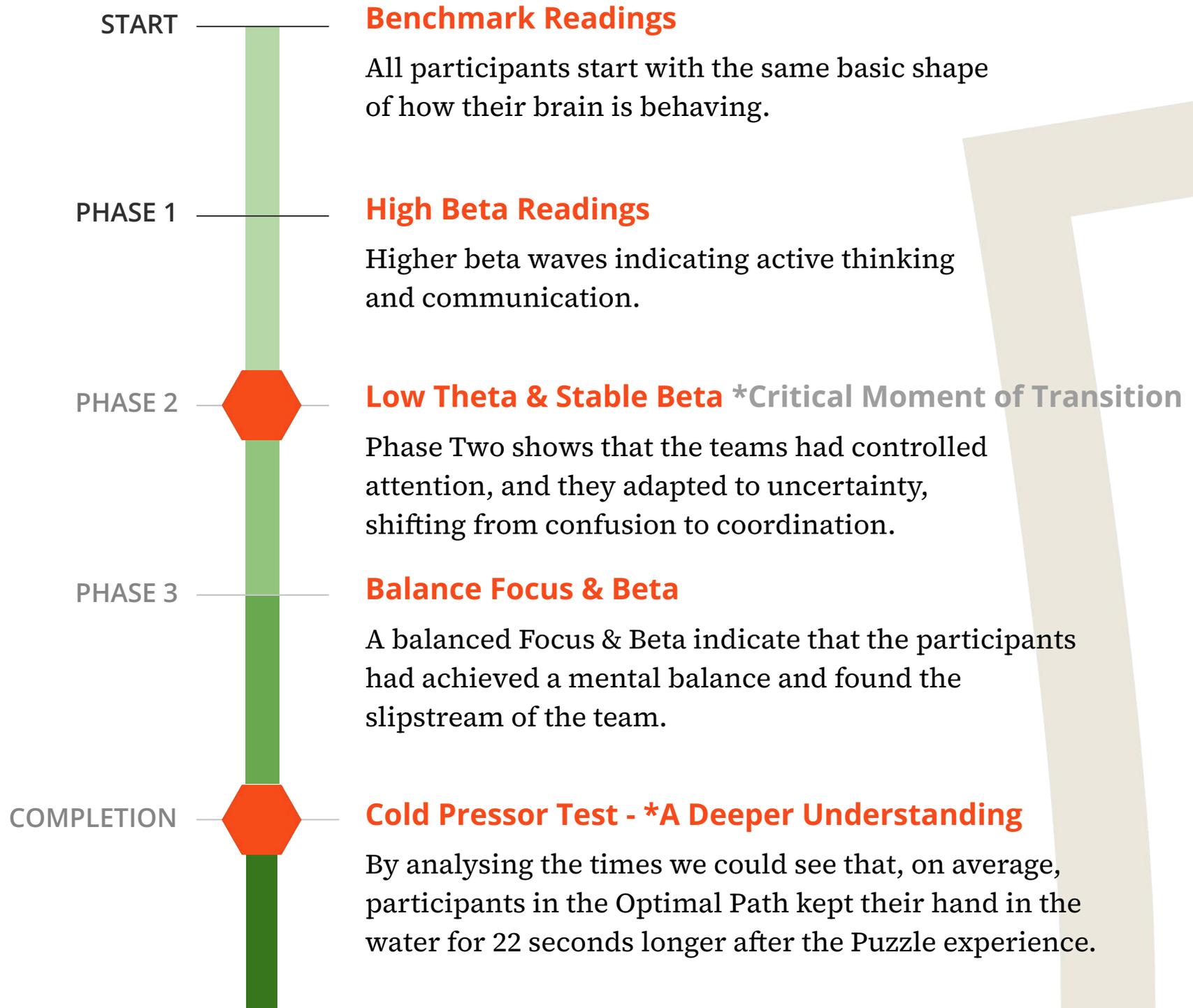


Blue line shows the drop in cognitive load required for effective working as the newly formed team collaborates and becomes more cohesive.

Note : We will discuss the red graph later in this section.



Phases | Optimal Brainwave Behaviour





Critical Moment of Transition

Phase two shows a critical point of divergence.

Here, we see the first signs of our cognitive slipstream.

Focus wave correlation drops, marking the transition **from individual concentration (individual internalization) to collective emotional resonance.**



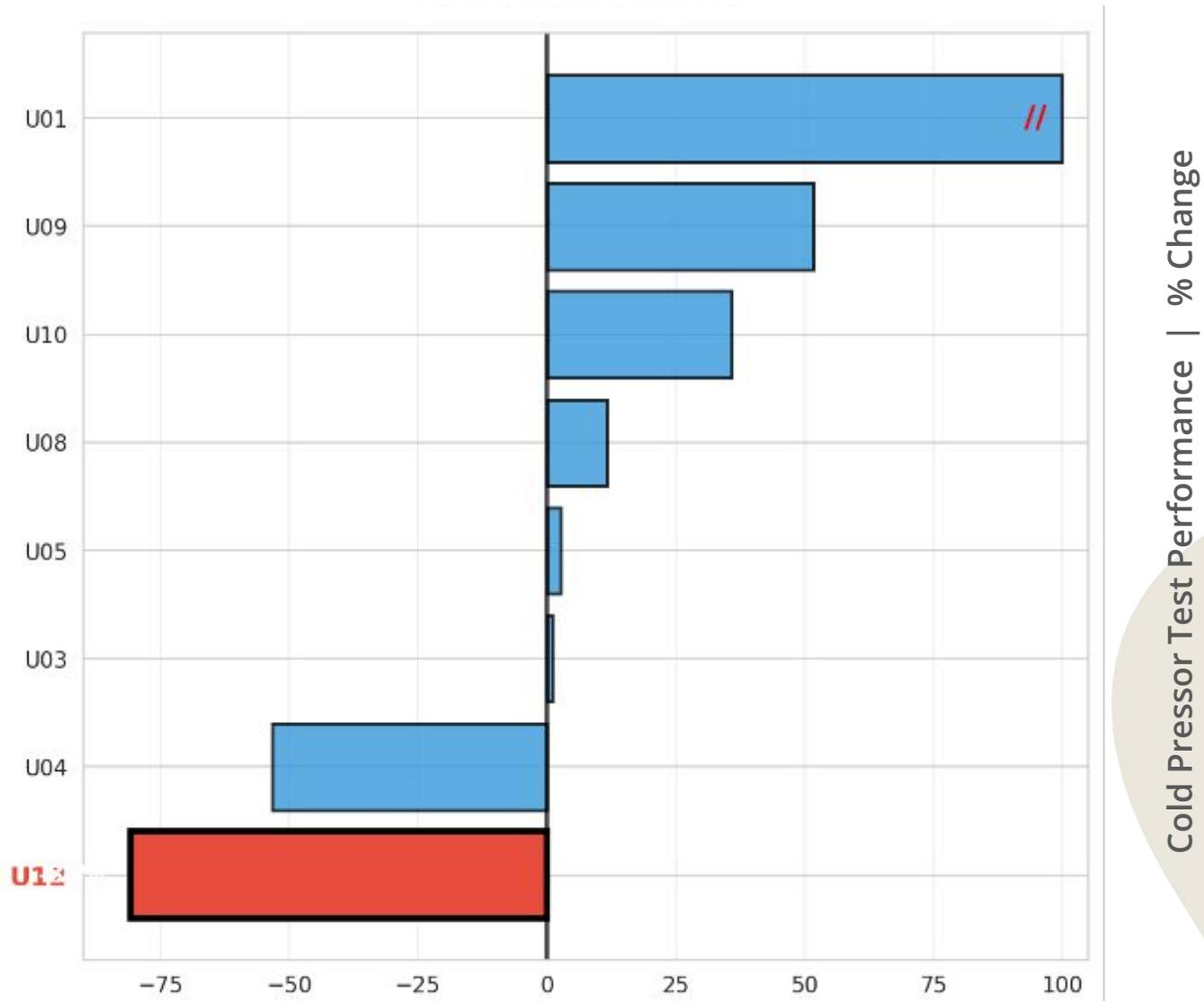
Having A Deeper Understanding

We correlated these signs with the results of the individual Cold Pressor Test.

By analysing the times we could see that, on average, **participants in the Optimal Path kept their hand in the water for 22 seconds longer after the Puzzle experience,** compared to those that struggled and dropped by, on average, 17 seconds.



Cold Pressor Test Results



The results from the CPT correlated with the high cognitive spikes we see on the previous graph, indicating more stress felt by those excluded from the slipstream.





3 Key Narratives

Expect Turbulence

But there is a word of caution coming out from that transition point between Phase Two and Three. The natural reaction to the action of the cognitive slipstream is ineffective and wasted resources.

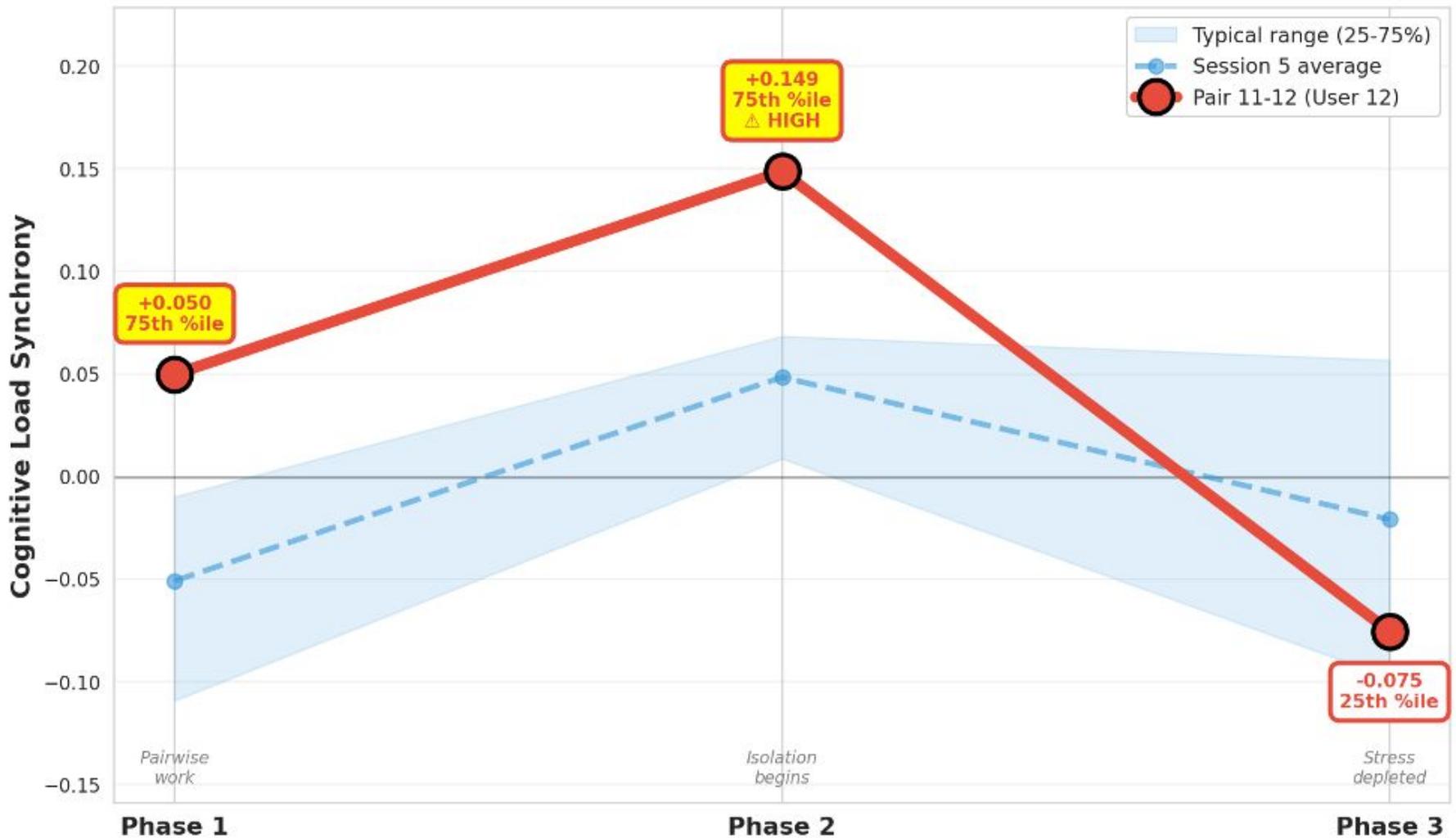
This is your enemy.

This moment of inflection brings with it, *Turbulent Flow*: where the air within the slipstream becomes turbulent if objects are not 'highly aerodynamic'.

Those outside the slipstream are quickly ignored and excluded.



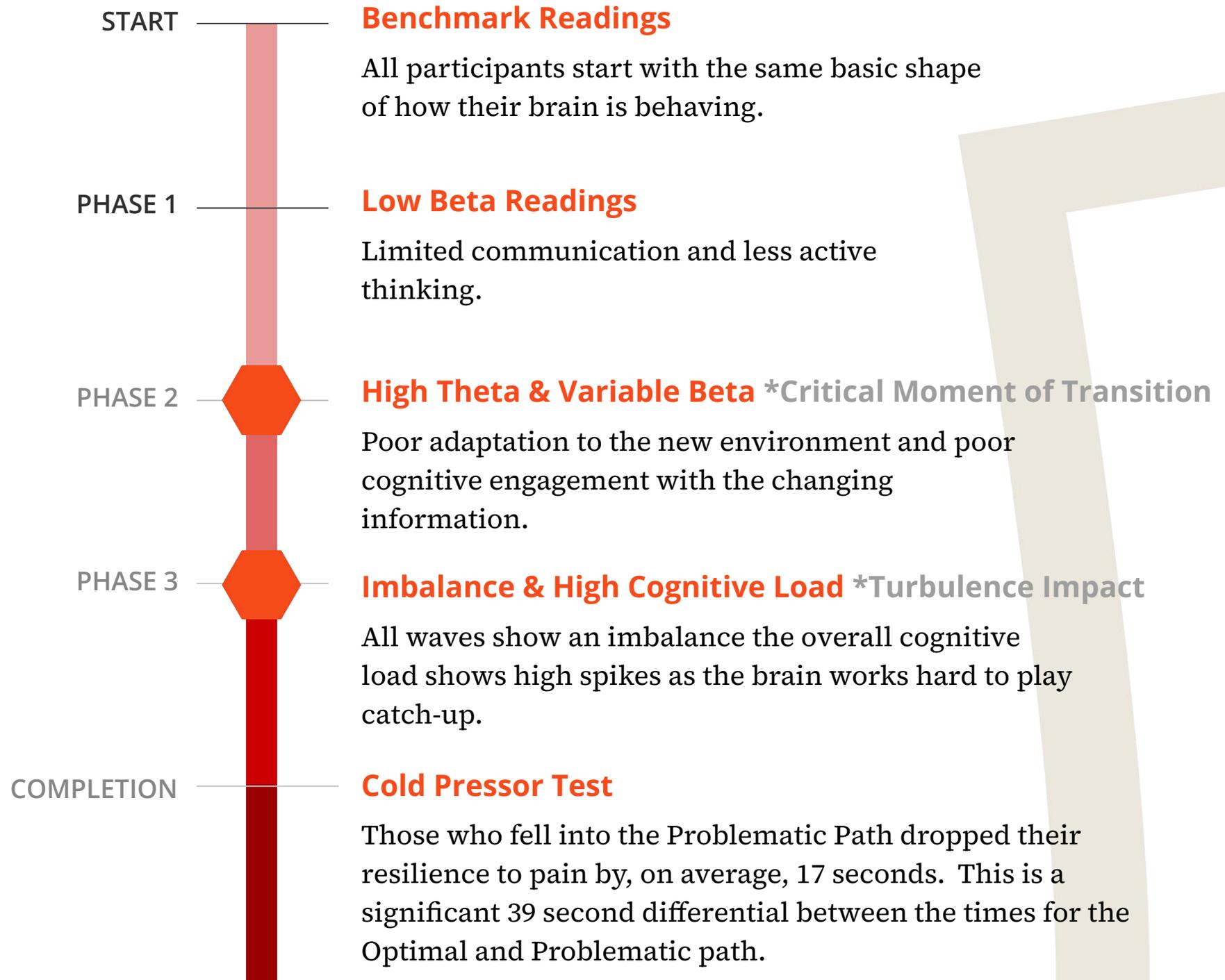
Team Exclusion Increases Both Cognitive Load & Stress Indicators



The red line signifies the cognitive load of those excluded from the group. A marked increase from those enjoying the benefits of the cognitive slipstream



Phases — Problematic Brainwave Behaviour





Critical Moment of Transition

This moment of inflection brings with it, just like in a natural slipstream, **Turbulent Flow**:

This is where the air within the slipstream becomes turbulent for objects that are not 'highly aerodynamic'.

In other words, those pairs that aren't included in the rhythm of the team are quickly ignored and excluded.



The Turbulence Impact

Their cognitive load spiked significantly higher than the rest of the participants indicating a brain working much harder than their colleagues, with reduced efficacy. This has a possible impact on the stress levels of the excluded individuals, likely brought on by the feeling of needing to 'prove' their value and therefore trying harder, as well as **the resulting emotion of being an 'outsider'**.



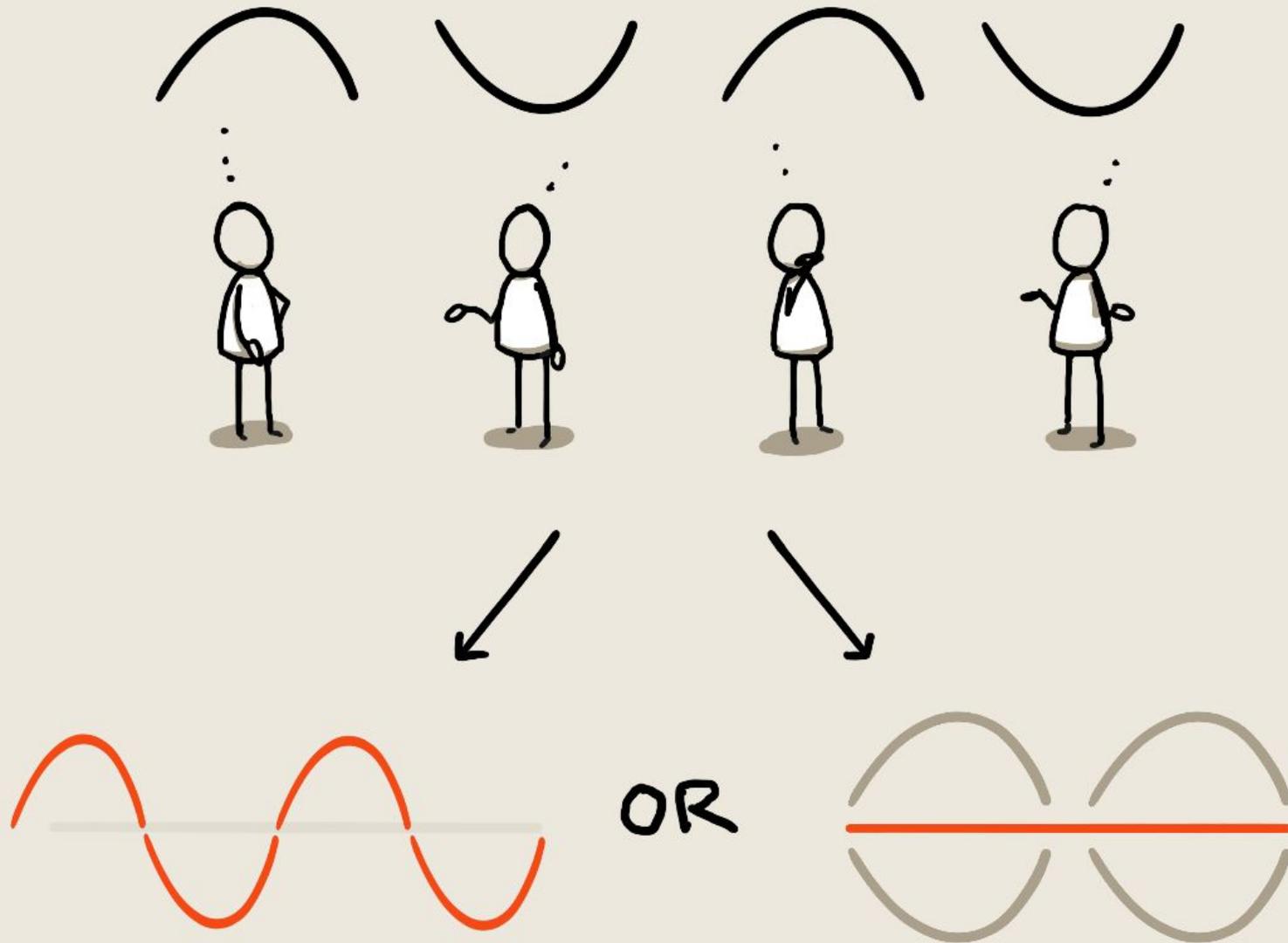


07

Six Lessons Of Leadership.

Putting all this together leaves us with six bite size lessons.
Understand these, and your teams can accelerate towards
cohesion and impact.

TEAMS ARE A FRAGILE ORGANISM



Read the signals or they will flatline.



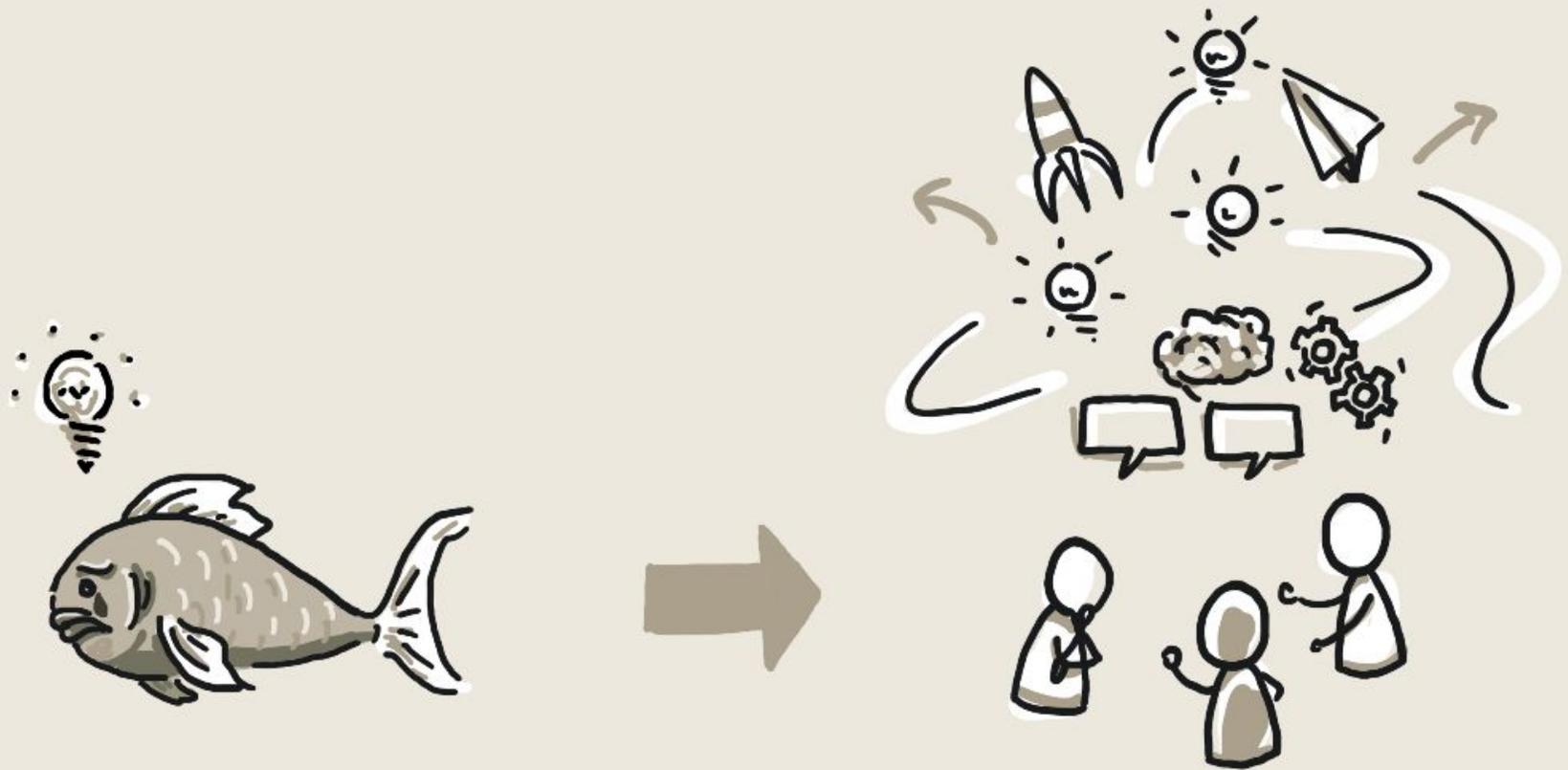
BEWARE, STRONG TEAMS CAN BE TOXIC



Turbulence created by a team in full flow causes workplace isolation. It is real and the disruptive flip side to a cohesive team.



MOVE OVER FISH



Collaboration is the
superfood for the brain



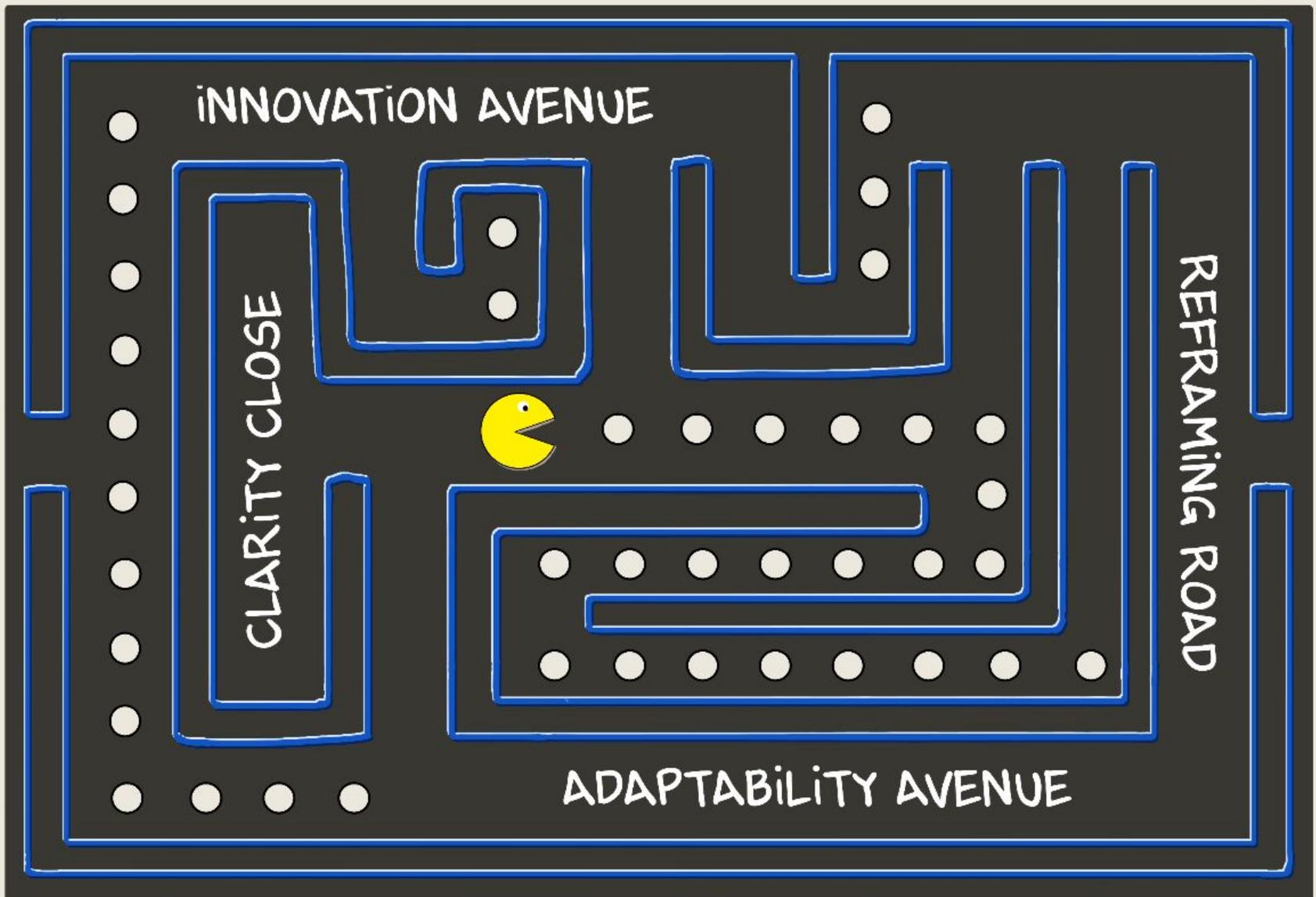
STRANGERS IN WORK CLOTHES



Teams are not greater than the sum of their parts
unless there is role clarity, cognitive alignment
and emotional connectivity.



BIASES EAT BREAKTHROUGHS FOR BREAKFAST



HUMAN NATURE IS THE ULTIMATE PREDATOR

It will happily ambush and kill half of your energy. Even
A players need help in breaking through their instincts.





08

Change Is A Human Endeavour.

Here's how we can transform tension into cohesion, increase team impact and turn strangers into emotionally connected teams.

Help is at hand.

We hold a simple belief.

Connection

+

Clarity

=

Cohesion

Emotional Resonance & Belonging.

Within the **psychological safety** of a team lies connection, combined with **culture & identity**.

Structural Integrity.

Clear communication, **extrinsic motivation** and the **respected value** of the individual.

Cohesion Changes Trajectory.

Togetherhness & Alignment.
Interpersonal Unity.
Rhythm & Flow.
Singularly Effective.
Outcome & Output.



Team cohesion is the most valuable asset of any organization.

It can conquer as much as it can divide, and needs careful, intentional nurturing so it thrives, evolves, and becomes stronger.

But human nature is a fickle thing and often undermines our best intentions.

My work, with and without the People Puzzle, is to help teams spot where human nature is quietly working against them, before they become problems.

The playfulness of the workshops allow me to work at the edges of team dynamics, where instinct, friction, and collaboration collide, because that's where teams reveal their truths.

Don't leave it to chance.



We don't teach people anything. We help them understand and learn through playful experiential discovery.

Using a methodology tested for over 15 years, and supported by this proprietary and independent research, our philosophy is simple; most training tells people *what* to fix; the Puzzle's approach helps them *see it for themselves*. That's where transformation sticks, because insight that's earned is rarely forgotten.

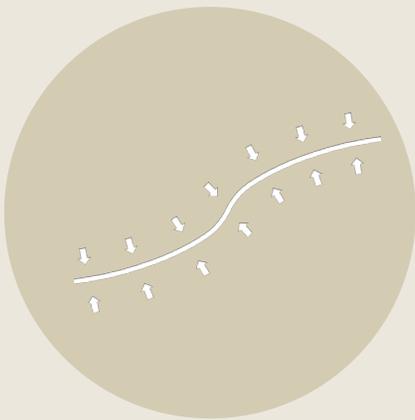
Our belief is that your team already has a blueprint that human nature has handed down to them. That's great, but it's invisible and can get in the way of speed, effectiveness and impact.



Our Philosophy

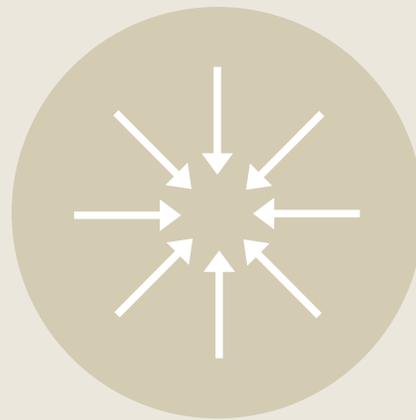
Change is a human endeavour.

A catalyst for a choiceful change of behaviour by challenging assumptions, breaking habits and mindsets for better outcomes.



1. Patterns

Diagnose
where disruption
is needed.



2. Intent

Embed
focus with
intention.



3. Stretch

Adaptability &
Collaboration.



4. Cohesion

Connection
& Clarity



Ask about our full suite of services.

Workshops, Experiences & Coaching



Experiential workshop to highlight ineffective & disruptive patterns.



A simple online diagnostic tool to assess where team tension lives.



Experiential workshop to introduce five frameworks to build leaders not followers.



Workshop bringing clarity to team roles and setting leadership expectations.



Experiential workshop exploring group dynamics in creativity.



Experiential hack-a-thon to explore expansive collaboration.



Nigel Scott

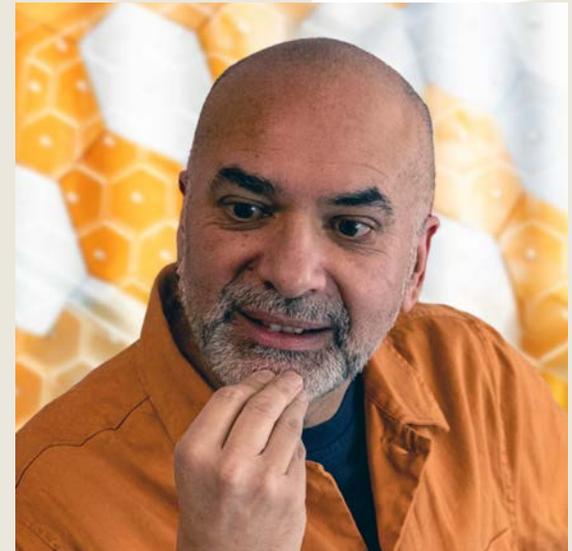
Nigel likes nothing better than stopping people in their tracks with a question that gets immediately to the heart of their perspective, playfully asking them to look at it from a different angle.

Over 30 years of experience that encompass founding three creative agencies, leading global creative projects, building teams, and transforming organizations (Vodafone, Rogers & Midnight Circus).

Nigel sees his purpose as one of resolving tensions, building cohesion and acting as a one-man catalyst for collaboration and new mental models for problem solving.

As the creator of *The People Puzzle*, and the comprehensive process, Nigel Scott has developed a groundbreaking experiential approach that blends his deep knowledge of behavioral science and organisational behaviour, with in-the-moment observation, analysis, and reasoning to uncover the hidden dynamics shaping team interactions.

It's exactly the kind of playful punch in the face that only an intellectual hooligan can provide.





N|A|T|I|O|N|A|L



PARIVEDA

Indigo





09

Without Whom...

I might have some talents but there is no way I could have achieved this research without the energy from some amazing friends, mentors and creative collaborators

**I cannot thank the following people and teams enough.
They've helped make this what it is.**

Martha Newsom, Cognitive Anthropologist, who gave me both incredible advice and a feeling of confidence that surprised even me.

Brainsights, providing the scientific guidance and rigour behind the experiment.

Drew Munro & Kim Rowan @ Lead for Growth, who have taught me so much about this world I am now living in.

Chris Brown, Rijul Kathuria & Mike Pitruzzella and the Riptide team for creating the beautiful film of the experiment.

Keith Jones & Good Company for their designs that have made me so proud of the People Puzzle brand.

Misty Meeks & Michael Moloney from National PR for their guidance and thinking about my story.

Millie Snook & Jack Cliffe for always being there with advice, energy and enthusiasm.

Jono @ Sketchplanations for his great supporting visuals.

Meg & Dylan, for supporting me as I follow my new path.

Thank You





10

Appendix



10.1

Methodology

The science behind the thinking.

1

Sixty participants across five groups.

2

Cold Pressor Test before and after the Puzzle.

4

Brainwave analysis & observations.

3

People Puzzle experience.



Research Elements of the Experiment

Research Element	Action	Data Captured	Analysis
CPT1	Self-timed hand immersion in ice cold water.	Time of immersion.	n/a
People Puzzle	Completing the Puzzle.	Unconscious neural activity captured and recorded. Real time observation of corresponding behaviours.	Between subject comparison for correlation and divergence.
CPT2	Self-timed hand immersion in ice cold water.	Time of immersion.	Within subject comparison, pre and post the Puzzle experience.





10.2

Phases of the Puzzle.

Behavioural Journey Through the Puzzle.

Phases of the People Puzzle

Phase & Duration	One : Average 27 minutes.
Characteristics	“What the...?”
Puzzle Environment	Pairs begin to work together, the ticking clock is turned on and the curtain is drawn across the middle of the room.
Participant Actions	This phase is the most troubling from a team dynamic POV dominated by confusion borne from lack of clarity, and their own assumptions. Action without purpose.
Brain Behaviour	Higher levels of correlation across pairs for the focus metrics indicating more internalization and introspection on their parts of completing the puzzle (one moving pieces and one directing).
Participant Behaviour	1. Action Bias; 2. Conformity Bias; 3. Competition mindset; 4. Trust in the partner; 5. Vocabulary established
What's Missing	1. Leadership ; 2. Clarification; 3. Big picture thinking; 4. Sharing of found info; 5. Psychological safety
Resolution	Experiential discovery & insight brings a new understanding of the task.



Phases of the People Puzzle

Phase & Duration	Two : Average 8 minutes
Characteristics	Co-Working / Swapping Pieces.
Puzzle Environment	Pairs begin to work with other pairs in the room, as they look for a piece of their puzzle they believe to be missing.
Participant Actions	Here we see some changes in behaviour but still not optimum with Transactional co-working, deliberate information retention, poor leadership and an exclusive 'party' behind the curtain.
Brain Behaviour	Focus wave correlation dropped after Phase 2, marking the transition from <i>individual concentration (individual internalization)</i> to <i>collective emotional resonance</i> .
Participant Behaviour	1. Swapping of pieces for individual gain; 2. Restriction of information; 3. Poor communication 4. The beginning of divergence and creation of 'outsiders'
What's Missing	1. Leadership; 2. Collaboration 3. Clear conversations between pairs; 4. Team inclusivity
Resolution	Critical mass of behaviour unlocks true clarity.



Phases of the People Puzzle

Phase & Duration	Three: Average 10 minutes
Characteristics	“We have been so dumb...”
Puzzle Environment	Everyone comes together for the final solution and completion of the Puzzle.
Participant Actions	Collaboration, team work, accountability and a slipstream to completion.
Brain Behaviour	Gamma wave correlation reaches its highest point at the end of phase 3 - indicating a shared emotional experience amongst pairs when completing the entire puzzle.
Participant Behaviour	<ol style="list-style-type: none"> 1. Excited for completion; 2. Genuine extrinsic motivation; 3. Team cohesion
What's Missing	There might be participants excluded.
Resolution	The Puzzle finally gets completed.





10.3

Brainsights &
Brainwaves Measured

What we looked at under the skull.

Brainsights are a brilliant Toronto based agency.

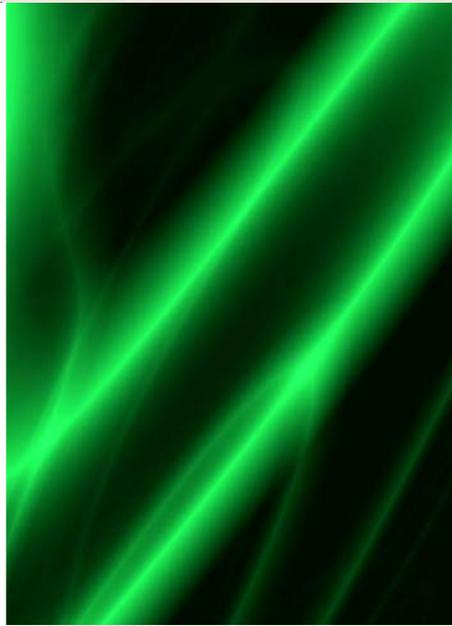
They help marketers, product developers and creators manage innovation risk and measure the true impact of creation and distribution through its neuro-intelligence platform, to drive industry leading innovation and deliver consistent business and brand outcomes.

They have been a cornerstone of the neuroscience thinking behind this idea.

It started as a hypothesis and with their help turned into a two day, dynamic and exciting piece of research, with seven brainwaves being measured every millisecond.

Kevin, Jasmine & Andy, I cannot thank you enough.





Delta

Associated with the level of task familiarity.

Theta

Indicates level of working memory activation.

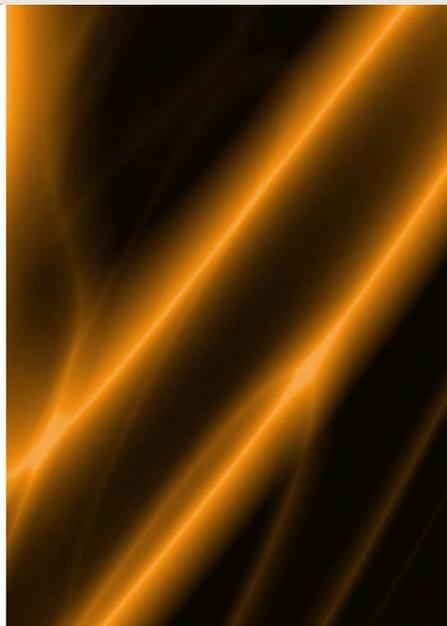
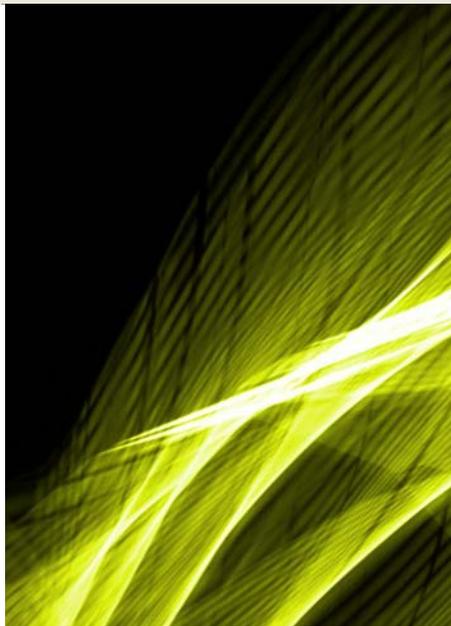
Gamma

Associated with emotional resonance or connection.

Focus

Associated with levels of deep internalization & introspection.





Beta

Associated with levels of attention being paid to a stimulus / context.

Alpha

Indicative of creativity and relaxed states of brain activity.

Cognitive Load

The amount of cognitive resources used to understand / tackle a task.





Building High-Performing Teams
through Collaboration, Communication,
and Human Connection.

Contact Nigel Scott
437.344.6843
peoplepuzzleexperience.com