MULABS

AJNA · MADRID · 2026

Multimodal Brain–Mind–Body Analysis

A one-day wellness intervention, measured across three independent systems — and read the same way in this deck and in the Final Report.

N = 6 · EEG (19-channel) + BioWell GDV + DEQ-32 + PSS-10

Three timepoints · Morning / Lunch / End of Day

PRINCIPAL INVESTIGATORS

Francisco Marques-Teixeira, MSc · Rafael Esteves, MSc

CONTACT

contact@mulabs.tech · www.mulabs.tech

MULABS

The question we could actually answer

We did not ask "does the Founders Reset work?"

We asked something narrower — and answerable:

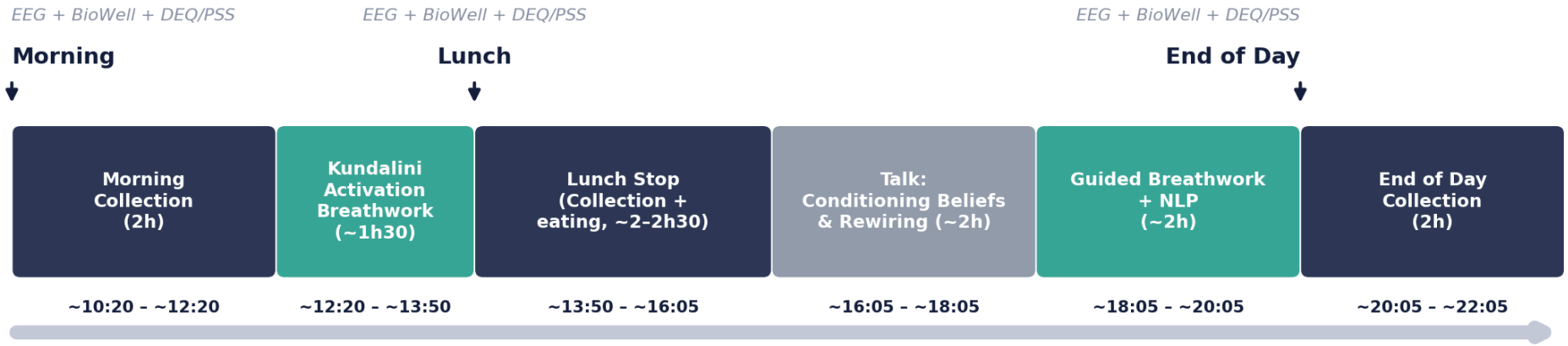
> *If a person's regulatory state shifts across the day, can independent instruments that share nothing in common detect that shift and agree on it?*

The answer is yes — and the instruments agree with each other.

> **Brain** — 19-channel EEG
>
> **Body** — BioWell GDV bioelectrography
>
> **Mind** — DEQ-32 + PSS-10

Three methods, no shared measurement error. If they move together, chance is an implausible explanation.

The day, and when we measured



Single-day protocol — total ≈ 11h45m, reconstructed from logged submission timestamps (±15–20 min per block)

IN PLAIN TERMS Three research-grade snapshots of the same six people — first thing in the morning, at lunch, and at the end of the day. Everything in this deck compares those snapshots. The primary comparison is **Morning → End of Day**.

↳ Connected to the Final Report · Figure 1 — structure of the day and the three measurement timepoints.

The intervention · what the day involved

The Founders Reset combined three experiential components, delivered in sequence across the day.

Component	Duration	What it involved
Kundalini activation breathwork	~1h30	Rapid diaphragmatic breathing, movement and chanting — designed to drive an acute physiological activation that then resolves into a deep parasympathetic (rest) rebound
Belief-reconditioning talk	~2h	"Conditioning Beliefs and the Rewiring of Our Brain Programs" (Borja Vilaseca) — on conditioned and limiting beliefs formed through life
Guided breathwork + NLP	~2h	A guided breathwork session integrated with neuro-linguistic programming (cognitive-reframing techniques), immediately before the final measurement

HOW TO READ THIS HONESTLY The breathwork is the component with the strongest scientific grounding: controlled trials link this style of breathing to lower stress and to the exact brain-rhythm shifts we set out to test. Because the talk and NLP were not measured in isolation, the study is careful **not** to attribute any single result to one component alone.

↳ Connected to the Final Report · §1.2 — Techniques under investigation.

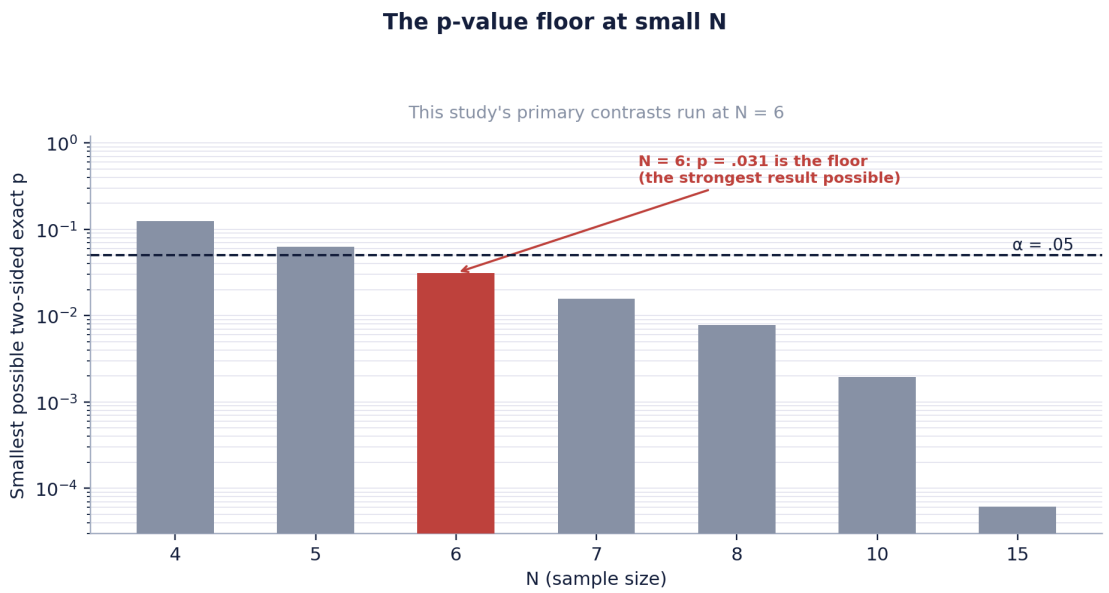
Three systems, three kinds of evidence

System	Instrument	What it captures
Brain	19-channel EEG (Emotiv FLEX)	The brain's electrical rhythms, millisecond by millisecond — a direct, objective read of neural state
Body	BioWell GDV bioelectrography	A photonic estimate of physiological stress and bioenergetic state, from the fingertips
Mind	DEQ-32 + PSS-10 questionnaires	What the person consciously feels — discrete emotions, and general perceived stress

IN PLAIN TERMS These three don't talk to each other. The EEG can't feel anxious; the questionnaire can't measure a brain-wave. That independence is exactly what makes their agreement meaningful later.

↳ *Connected to the Final Report · §2.1 — Measurement battery.*

The honest maths of a six-person study



With six people, the smallest possible p-value is **.031** — and no honest test can go below it.

- We used **exact permutation tests** — the only valid method this small
- The p-value is **capped by the sample size**, not the effect strength
- So we don't chase tiny p-values — we ask: **did all six move together?**

WHAT THE CURVE SHOWS A p-value asks: how likely is this pattern by pure chance? With 6 people the best you can reach is about 1-in-32. Reaching that floor *and* having all six agree is the strongest signal this design can produce.

↳ Connected to the Final Report · Figure 2 — the exact p-value floor by sample size.

MULABS

THE PRIMARY FINDING

Stress fell in every participant.

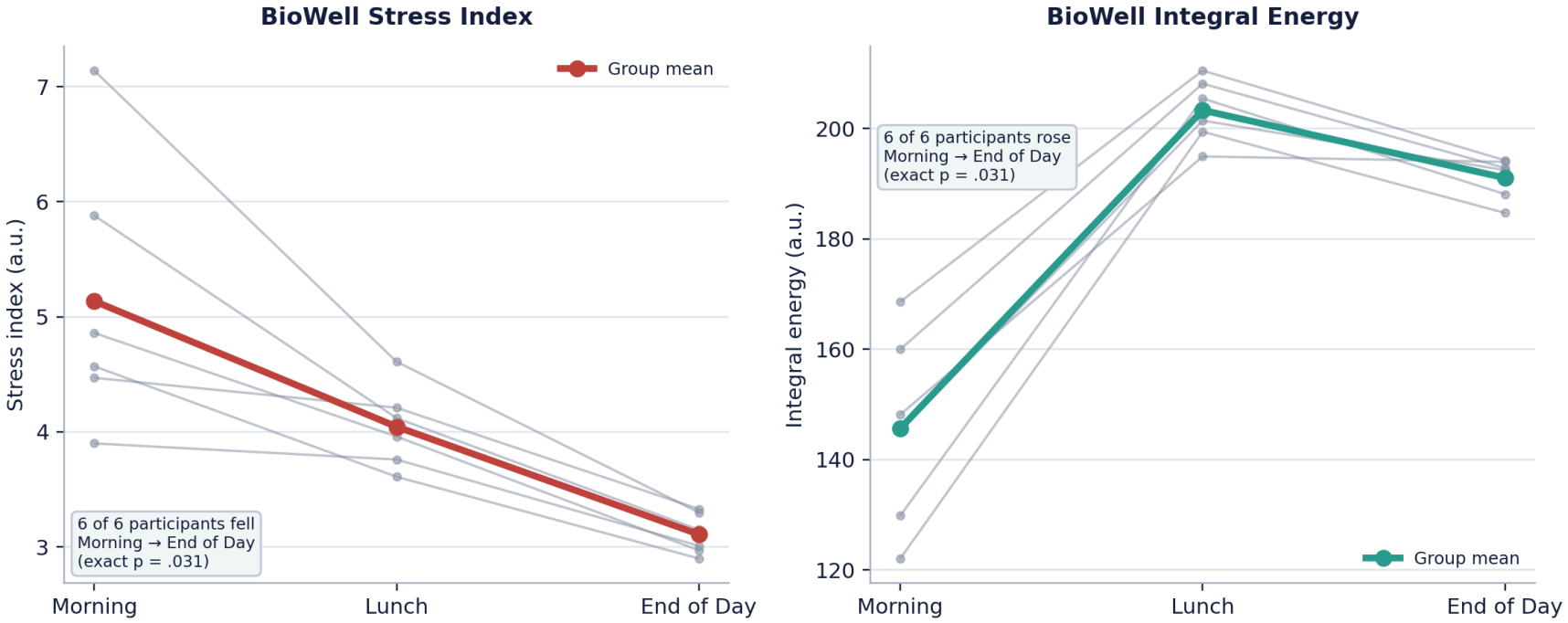
5.14 → 3.11

A 39% drop in the BioWell stress index — **6 of 6**, without exception.

Under the null hypothesis, all six moving the same way is a 1-in-32 event ($p = .031$) — the strongest result achievable at this sample size.

MULABS

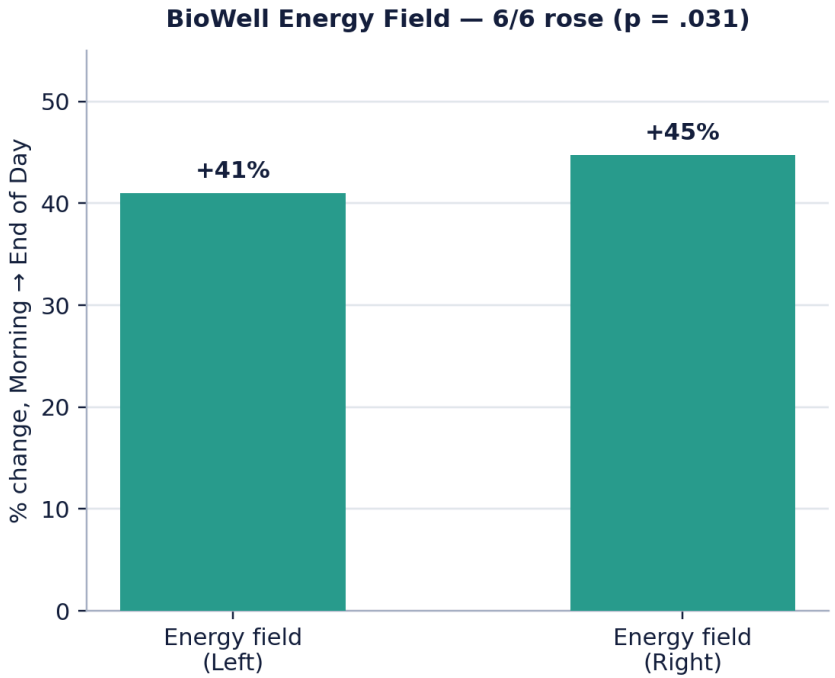
Body · every participant, same direction

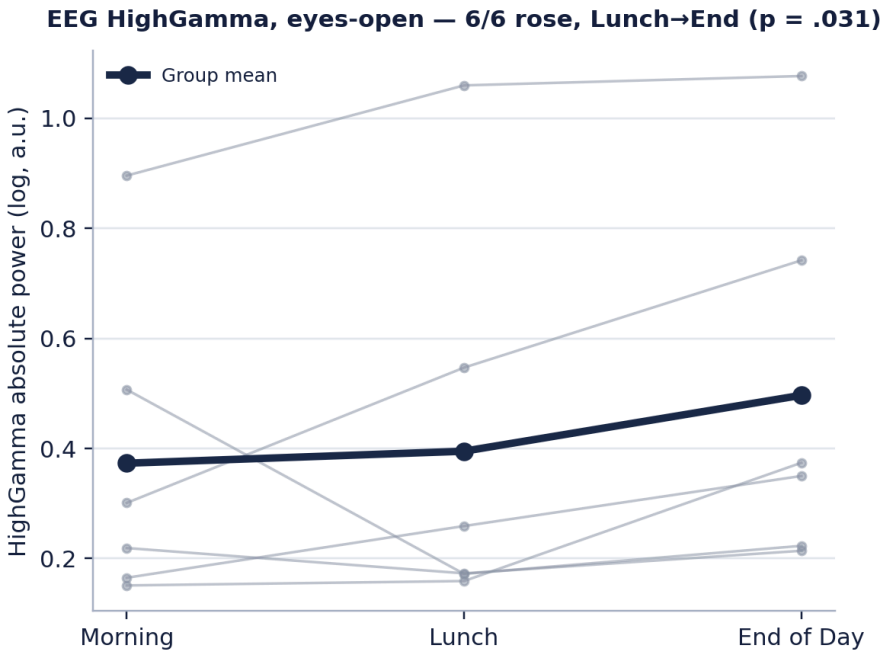


HOW TO READ THIS GRAPH Each thin grey line is one person; the bold line is the group. Stress (left) falls for all six; energy (right) rises for all six. No line breaks the pattern — that unbroken agreement is the finding, more than any single average.

↳ Connected to the Final Report · Figure 3 — BioWell stress & energy, individual trajectories and group mean.

Body · a wider, more symmetric energy field





WHAT THIS SHOWS BioWell also estimates the size of the body's measured energy field on the left and right. Both sides expanded in all six people (left +41%, right +45%). The right panel shows the same high-gamma brain finding we reach on the next slides — body and brain, side by side.

↳ Connected to the Final Report · Figure 4 — bilateral energy-field increase (left) & EEG high-gamma (right).

Reading a brain · the EEG primer

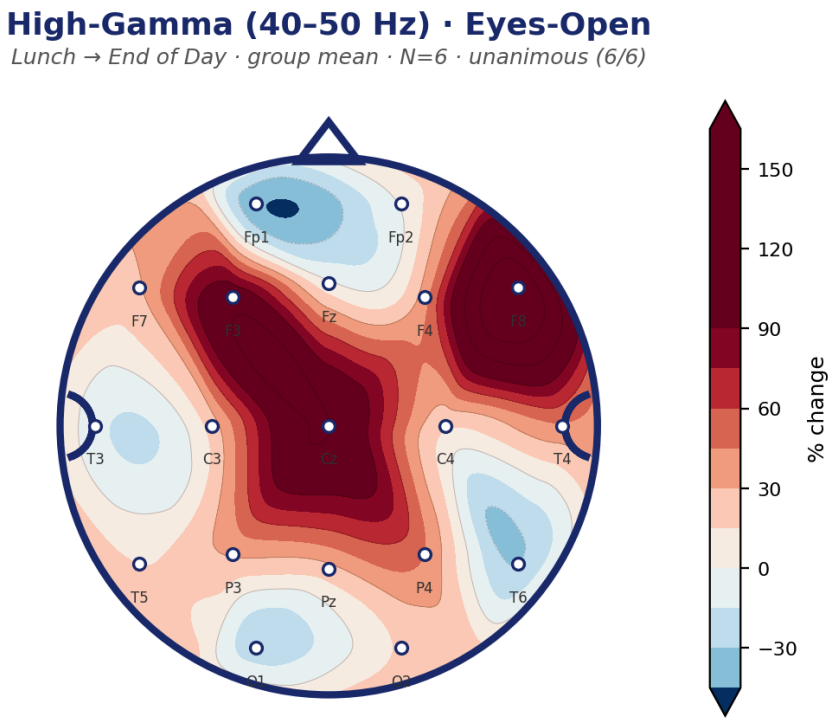
EEG records the brain's electrical activity from the scalp. Split into frequency bands, each rhythm maps to a known mental state — from deep rest to focused engagement.

Band	Speed	What it typically reflects
Delta	1–4 Hz	Deep, slow-wave rest & low arousal (eyes-closed)
Theta	4–8 Hz	Meditative, inward-focused states
Alpha	8–12 Hz	The classic "relaxation rhythm" — calm wakefulness
Beta	13–30 Hz	Active thinking & alertness (less = less rumination)
Gamma / High-Gamma	30–50 Hz	Neural integration, "binding," heightened engagement

WHY TWO MONTAGES We recorded every band two independent ways (two **montages** — different reference wirings, run in parallel), with eyes open and eyes closed. A result that survives *both* wirings can't be a quirk of one setup.

↳ *Connected to the Final Report · §2.1 — CNS / EEG, and the 14-band definitions.*

Brain · the strongest signal: high-gamma



High-gamma (40–50 Hz), eyes-open, rose in **all six** people on **both** montages, Lunch → End of Day.

- +44% (Linked-Ears) · +61% (Laplacian)
- 6/6 unanimous · p = .031 on each montage
- Concentrated at the crown (Cz +121%); forehead (Fp1) *fell*

WHAT HIGH-GAMMA MEANS High-gamma is the brain's signature of **integration and focused engagement** — the state seen in deep breathwork and advanced meditation. It rose, and it rose in everyone. This is an exploratory finding, not one of the pre-registered outcomes.

↳ Connected to the Final Report · §3.3 & Figure 4 (right) — high-gamma, eyes-open.

MULABS

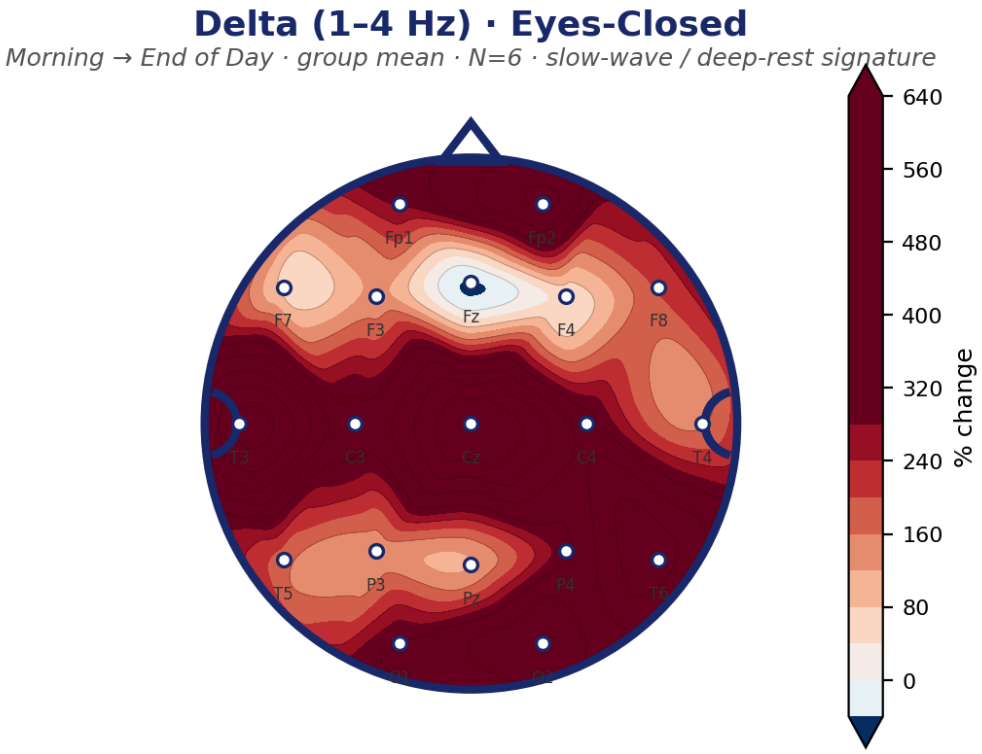
Brain · how we know it's real, not a muscle twitch

Challenge to the finding	Test result	Verdict
Shows on the 2nd montage too?	+61%, 6/6, p=.031 (Laplacian)	**Replicates**
Is it jaw/forehead muscle (EMG)?	EMG-prone sites: only 4/6, p=.44 · midline sites: 6/6, p=.031	**Concentrated where muscle *isn't***
Broadband 1/f drift?	Aperiodic offset p=.56 · exponent p=1.0	**No broadband shift**
50 Hz mains noise (Madrid)?	No line-noise peak detected	**Not electrical noise**

WHY THIS RULES OUT ARTEFACTS A muscle clench would light up the **edges** of the head (jaw, forehead). Our effect lights up the **crown** and goes quiet at the forehead — the opposite pattern. It passed all four checks, so it's brain activity, not an artefact.

↳ Connected to the Final Report · §3.3 — four-check artefact-validation table.

Brain · a deep-rest signature by evening



Eyes-closed delta (1–4 Hz) rose sharply from Morning to End of Day.

- ≈ +235% group magnitude (Tier 1, Linked-Ears)
- Central–posterior distribution
- Directional in 5–6 of 6 (not unanimous on both montages)

WHAT DELTA MEANS HERE When you close your eyes and slow, deep **delta** waves grow, the nervous system is shifting into deep, parasympathetic rest. Alongside the daytime high-gamma engagement, the picture is: **engaged by day, deeply rested by evening.**

↳ Connected to the Final Report · §3.3 — secondary EEG finding.

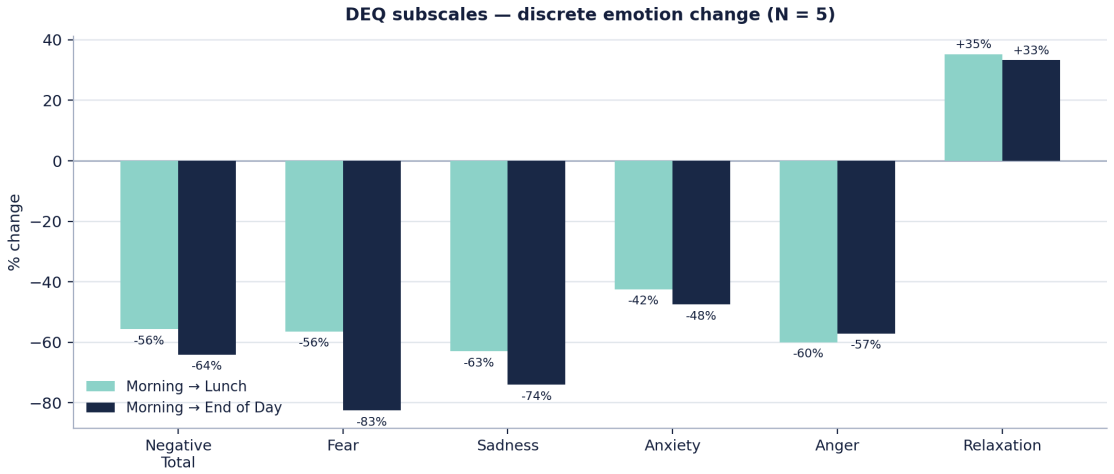
Brain · the complete, honest EEG picture

EEG measure	Direction	Agreement	Evidence tier
High-gamma, eyes-open	↑ **rose**	6/6 both montages	**Tier 1** (exploratory)
Delta, eyes-closed	↑ **rose**	5–6/6	Tier 1 (LE montage)
Alpha, eyes-closed	↑ **rose**	4/6	Tier 3 (directional)
Beta, eyes-open	↑ **rose**	5/6	Tier 3 (directional)

THE FULL PICTURE, NOT JUST THE WIN Every EEG rhythm that moved, moved in the predicted direction — **none contradicted the hypothesis**. The two strongest (high-gamma, delta) reached the highest evidence tier; alpha and beta pointed the right way without full agreement. We report all of it, graded by strength.

↳ *Connected to the Final Report · §3.1 primary-outcomes table & §3.3.*

Mind · reported emotion fell sharply



Negative affect: **26.2** → **9.4** — a 64% drop, in all five participants with complete data.

- Fear -83% · Sadness -74% · Anger -57% · Anxiety -48%
- Relaxation +33%
- 5/5, p = .063 (the exact floor at N = 5)

WHAT THE BARS SHOW This is what people **consciously reported feeling** — measured with a validated emotion questionnaire (the corrected scoring, Final Report §4.7). Fear and sadness fell the most; relaxation rose. It moves the same direction as the body and brain data.

↳ Connected to the Final Report · Figure 5 — DEQ subscale change; §3.4.

THE MEASURE THAT CORRECTLY SHOWED NOTHING

Perceived stress did not move — and it shouldn't have.

Every PSS-10 item asks about **"the last month."** It's a **trait** measure — it cannot shift in a single day.

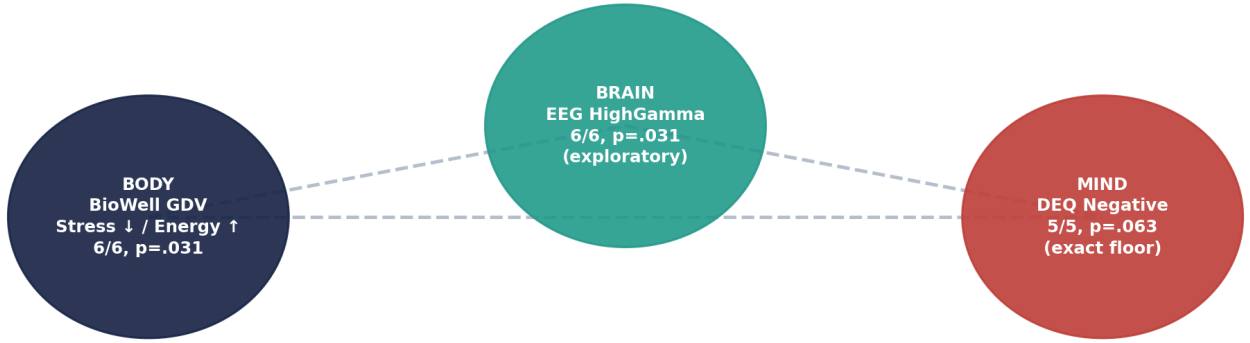
-0.6
points on a 0–40 scale

p = .375
no change, as expected

3 of 3
state measures DID move

State measures shifted; the month-long trait measure held still. That's a dataset behaving exactly as it should — a validity check that passes.

The core evidence · three systems, one direction



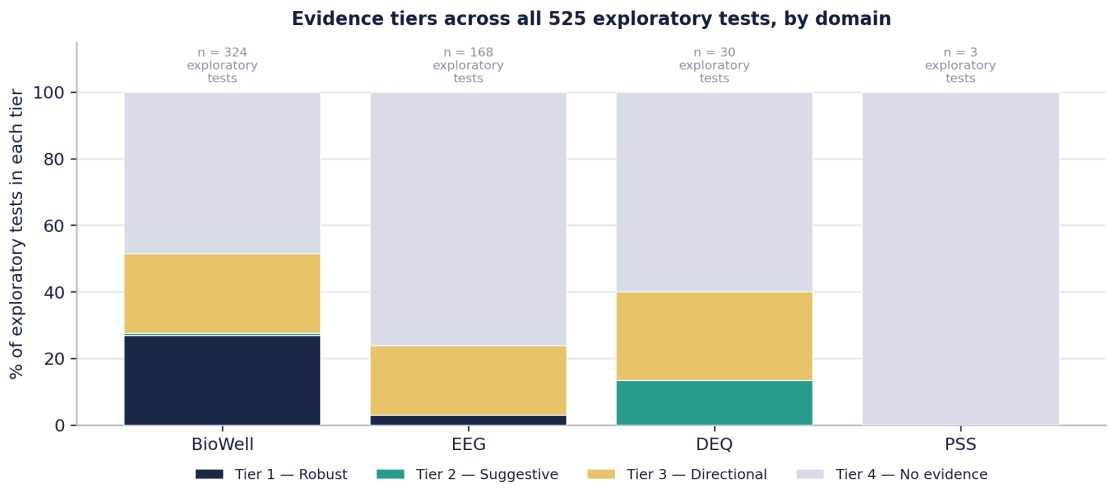
Fisher's exact test across BioWell × DEQ directionality: $\chi^2(4) = 12.48$, $p = .014$

Three measurement systems that share no method variance move in the same direction.

WHY THIS IS THE STRONGEST PART Brain, body and mind — three instruments that share no wiring — each showed the same shift, in the same people. Combining the two fully independent measures: **Fisher $\chi^2(4) = 12.48$, $p = .014$.** It is very hard to make a photonic device and a paper questionnaire agree by chance.

↳ Connected to the Final Report · Figure 6 — cross-modal convergence (brain · body · mind).

The full landscape · every test we ran, graded



Beyond the pre-registered outcomes, we ran **525 exploratory contrasts** and graded each by strength of evidence.

- Tier 1 = strongest · Tier 4 = weakest
- Nothing was cherry-picked — the whole landscape is shown
- The headline findings sit in Tier 1

WHY SHOW ALL 525 Rather than report only what looked good, we tiered **every** comparison. This chart is the full accounting — it's what lets a reader trust that the strong findings weren't just the lucky ones.

↳ Connected to the Final Report · Figure 7 — evidence-tier distribution of all 525 contrasts.

MULABS

Conclusions · what the data shows

Across a single day, three independent systems moved together in six people.

Body	Stress fell (6/6), energy & energy-field rose (6/6). **Tier 1**
Mind	Reported negative emotion fell 64% (5/5); relaxation rose.
Brain	High-gamma engagement rose (6/6); deep-rest delta rose.

The convergence is the conclusion. A photonic device, a questionnaire and 19-channel EEG — sharing no method — agreed in the same people (Fisher p = .014). At N = 6, that concordance, not any single test, is the evidence.

What the brain data adds

The EEG tells a two-part story that fits the day's design:

1 · Engaged, not sedated. High-gamma (40–50 Hz) — the brain's signature of integration and focused attention — rose in **all six** people, on **both** reference montages, and survived four artefact checks. Its peak at the crown (not the jaw or forehead) is the opposite of a muscle twitch, so it reflects genuine neural activity.

2 · Deeply rested by evening. With eyes closed, slow delta waves rose markedly — the electrical signature of a nervous system dropping into deep parasympathetic rest.

Together: **engaged by day, deeply rested by evening** — the pattern breathwork research predicts, now observed in this group.

↳ *Connected to the Final Report · §3.1–3.3, Figures 3, 4, 6 — primary outcomes, EEG findings, convergence.*

MULABS

What AJNA can say — and how to word it

Every statement below is supported by the pilot data. The wording is the point: describe **what was measured, in whom, at pilot stage**.

DO **Physiological stress markers fell in all six participants.**

"In our instrumented pilot, every participant's physiological stress markers were lower by the end of the day."

DO **Participants reported large emotional relief.**

"Participants reported substantial drops in anxiety, fear, sadness and anger — and a rise in relaxation."

DO **Two independent systems, plus the brain, agreed.**

"A bioenergetic device, psychological questionnaires and 19-channel EEG all pointed the same way, in the same people."

DO **AJNA measures with research-grade tools. (a real differentiator)**

"We measure our programmes with research-grade neuroscience: 19-channel EEG, GDV bioelectrography and validated questionnaires."

MULABS

What AJNA should not say — yet

Each claim below overreaches what a **6-person pilot without a control group** can support. Avoid until the replication.

DON'T **"Scientifically / clinically proven to reduce stress."**
Pilot, no control group — "proven" isn't available yet.
Say instead: **"measured a reduction in our pilot."**

DON'T **"The retreat reduces stress / rewires your brain." (causal)**
Without a comparison group, ordinary day-length effects aren't ruled out.
Say instead: **"participants showed reduced stress markers across the day."**

DON'T **"Treats anxiety or depression." (medical)**
Not a medical treatment; a regulated claim.
Say instead: **"supports relaxation and emotional wellbeing."**

DON'T **"Works for everyone" · "produces lasting change."**
N = 6, and measured only within a single day.
Say instead: **"all six pilot participants responded, by the end of the retreat day."**

The one rule that keeps every claim safe: describe what you measured, not what you caused.

The honest limits

- **N = 6.** A pilot. It cannot support population-level claims.
- **No control group.** A single-arm, day-long design cannot separate the intervention from ordinary day-length effects — fatigue, circadian rhythm, meals.
- **High-gamma and delta were exploratory**, not pre-registered — however well they survive validation.
- **BioWell GDV is not a clinically validated instrument.** Its outputs are reported as produced, without endorsing the underlying model.

THE DIFFERENCE THAT MATTERS None of this weakens what we *measured* — it bounds what we can *conclude*. Strong pilot evidence; not proof of efficacy.

The next study

- **N ≥ 15, with a waitlist or active control arm** — the single most important change
- **Pre-register high-gamma** (eyes-open, central) as the primary EEG outcome
- **Replace the PSS** with a state stress measure (STAI-S or a visual analogue scale)
- **Add HRV** for autonomic confirmation
- **Follow up at 1–2 weeks** to test whether the effect persists

With a control arm at N = 15, these effect sizes would be detectable at conventional significance.

The science, in plain terms · reading the evidence

"p = .031" · "1 in 32"

How likely is this just by chance?

About 1 in 32. With only six people, that is the **strongest number mathematically possible** — capped by the small sample, not a weak effect.

Convergence

Why agreement between tools is strong

A photonic device and a paper questionnaire share **no wiring and no method**. When unrelated instruments agree in the same people, chance becomes hard to invoke.

"6 of 6"

Why "everyone" beats an average

All six moved the same way, no exceptions. In a small group, **unanimity is more convincing than an average**, which can hide people who went the other way.

Evidence tiers

Not just "real?" but "how strong?"

We ranked **how strong the evidence is** — Tier 1 (strongest) to exploratory — rather than treating every number as equally solid. Headlines are Tier 1.

MULABS

The science, in plain terms · brain, body & measures

Gamma & Delta waves

The brain's rhythms come in speeds

Fast (gamma) = focused, integrated attention. **Slow (delta)** = deep rest. Fast rose with eyes open; slow rose with eyes closed — engaged by day, rested by evening.

Montage · eyes-open/closed

Why we measured twice

Each rhythm was read two independent ways (two **montages**) and in two states (eyes open/closed). A finding on **both** wirings can't be a setup quirk.

Topographic map

How to read the head-maps

A top-down view of the scalp. **Red = activity rose there; blue = fell.** It shows *where* a change happened — for us, strongest at the crown.

State vs. trait · BioWell

Two things worth knowing

State = how you feel now (shifts in hours); **trait** = your baseline over weeks (shouldn't shift in a day) — why the PSS held still. **BioWell/GDV** photographs the fingertip's electrical "glow" to estimate stress & energy — a wellness tool, reported transparently.

MULABS

Selected references

The study's methods and interpretations are grounded in the peer-reviewed literature. Full bibliography in the Final Report.

BREATHWORK & EEG

Zaccaro et al. (2018). Slow breathing & psychophysiological correlates. *Front. Hum. Neurosci.* 12, 353.

Bahi et al. (2024). Conscious connected breathing on cortical activity & mood. *Current Psychology* 43, 10578.

Vialatte et al. (2009). EEG gamma during Bhramari Pranayama. *Conscious. Cogn.* 18, 977.

Lutz et al. (2004). Long-term meditators self-induce gamma synchrony. *PNAS* 101, 16369.

Arambula et al. (2001). Physiological correlates of Kundalini yoga. *Appl. Psychophysiol. Biofeedback* 26, 147.

Fincham et al. (2023). Breathwork on stress: RCT meta-analysis. *Sci. Rep.* 13, 432.

EEG METHODS

Klimesch (1999). Alpha & theta oscillations. *Brain Res. Rev.* 29, 169.

Kaiser (2005). Principles of quantitative EEG. *J. Adult Dev.* 12, 99.

Thatcher (2010). Validity & reliability of qEEG. *J. Neurotherapy* 14, 122.

STATISTICS

Maris & Oostenveld (2007). Nonparametric testing of EEG/MEG data. *J. Neurosci. Methods* 164, 177.

Benjamini & Hochberg (1995). Controlling the false discovery rate. *J. R. Stat. Soc. B* 57, 289.

QUESTIONNAIRES

Harmon-Jones et al. (2016). The Discrete Emotions Questionnaire (DEQ). *PLoS ONE* 11, e0159915.

Cohen et al. (1983). A global measure of perceived stress (PSS). *J. Health Soc. Behav.* 24, 385.

GDV / BIOELECTROGRAPHY

Korotkov et al. (2010). GDV/EPC analysis in medicine: systematic review. *J. Altern. Complement. Med.* 16, 13.

Valverde & Korotkov (2025). GDV for psychological research: systematic review. *Int. J. Stud. Psychol.* 5(2).

FRAMEWORK

Thayer & Lane (2000). Neurovisceral integration in emotion regulation. *J. Affect. Disord.* 61, 201.

Sturt et al. (2012). NLP & health outcomes: systematic review. *Br. J. Gen. Pract.* 62, e757.

MULABS

Applied Neuroscience & Wellness · Lisbon

Francisco Marques-Teixeira, MSc (King's College London) · Rafael Esteves, Research Lead

Emotiv FLEX EEG · BioWell GDV · HRV · QEEG & neurofeedback

Every p-value is an exact permutation test. Every finding is tiered by strength of evidence. Every figure here appears in the Final Report. Every anomaly in the source data is logged and disclosed.

contact@mulabs.tech · www.mulabs.tech