Reduced Suicidality and Increased Self-Trust Following a Phased Shiftwave-Assisted Therapy Process in a Young Adult with Severe Developmental Trauma, Addiction, and Dissociative Symptoms: A Case Report

Theresa Hubbard, LMFT

Kansas City Neuroplasticity Institute, Liberty, Missouri

Correspondence: theresa@theresahubbard.com | www.kcnpi.com

Process conducted: June 7–August 8, 2026 | Report date: August 2026

Abstract

Background

Severe developmental trauma in young adults rarely presents as a single diagnosis. It more often presents as an interlocking system, as in this case study — post-traumatic stress, addiction, compulsive behavior, eating-disorder patterns, dissociation, shame, and recurrent suicidality — in which treating one domain can activate another. Shiftwave is a proprietary technology designed to engage the autonomic nervous system through structured body-based protocols and is being clinically explored for applications related to stress, trauma, mental health, and nervous system regulation. This case report describes clinical observations from a phased Shiftwave-assisted therapy process — an exploratory single-day intensive, five weeks of repeated shorter sessions, and a ten-day, clinician-supported shared-residence intensive — in a young adult with a complex multi-domain presentation, integrating session-by-session self-report, a pre/post neurocognitive battery and symptom inventory, and pre/post EEG monitoring.

Case Presentation

P003 is a 27-year-old man with a history of severe and prolonged developmental trauma, including sexual exploitation beginning in childhood, adult sexual assault, and the deaths of several close friends in recovery. His reported diagnostic history includes post-traumatic stress disorder, alcohol and cannabis dependence in sustained remission, sexual compulsivity, anorexia nervosa (restricting type), borderline personality traits, and an unspecified mood disorder, with chronic passive suicidal ideation and recent acute episodes. He entered the process during a period of marked deterioration — escalating dissociative episodes with feared time loss, a treating counselor recommending a return to residential care, and severe self-reported depression, anxiety, and sleep disruption. The work proceeded in three phases: a single-day exploratory intensive with full baseline assessment (June 7, 2026), five weeks of repeated individual sessions (June 8–30), and a ten-day clinician-supported shared-residence intensive conducted in a quiet coastal setting in Oregon (July 21–30), followed by a post-intensive assessment nine days after his return home (August 8).

Outcomes

Across 33 recorded protocol sessions, state anxiety (STAI-S) fell within session in 15 of the 20 sessions with paired pre/post data, from a mean of 55.6 to 49.6, and — distinct from the within-session shifts — his pre-session baseline itself dropped between phases, from a mean of

60.8 in June to 47.9 during the Oregon intensive. Session-level negative affect fell (19.8 to 16.4) while positive affect rose modestly and was highest during the intensive. The most clinically significant change was in suicidality: the neuropsychiatric symptom screen's suicide domain fell from 267 (severe) at the June baseline to 0 at the August assessment, and both P003 and the treating clinician noted that suicidal ideation — chronic before the process and acute in the preceding months — was absent throughout the deepest trauma-processing work of the intensive. Self-reported anxiety (GAD-7 17 to 10), depression (DASS-21 42 to 26), PTSD symptoms (PCL-5 71 to 59), obsessive-compulsive burden (155 to 75, moderate to mild), and daytime sleepiness (Epworth 10 to 6) all improved, while DASS anxiety was essentially unchanged and fatigue remained moderate. The neurocognitive battery was mixed: reasoning (standard score 80 to 117), working memory (91 to 116), and sustained attention (100 to 111) rose substantially — with the reasoning change partly attributable to item familiarity, though the working-memory gain reflected a concrete performance change (two-back: 9 to 15 correct, omission errors 7 to 1) — while verbal memory (93 to 71) and social acuity (115 to 86) declined. Pre/post EEG monitoring at six electrode placements showed no global slowing or speeding; descriptively, the ordinary posterior dominance of eyes-closed alpha was better defined at the post recording, frontal theta relative to alpha decreased, and eyes-open alpha rose at most placements — a pattern consistent with lower eyes-open arousal, and descriptive only. Functionally, P003 completed a feared medical evaluation independently, drove for the first time in months under supported conditions and planned a graded return to driving, encountered a significant relational trigger after returning home and did not flee it, and made a consequential autonomy decision (declining an impulsive trip extension) from a grounded rather than compliant or rebellious state. No nighttime wandering, time loss, or suicidal crisis occurred during the ten-day intensive.

Conclusion

This case suggests that a phased, trauma-informed Shiftwave-assisted process — familiar protocols repeated over weeks, embedded in relational containment, nature, protected integration time, and collaborative safety planning — may support meaningful stabilization in a high-acuity, multi-domain trauma presentation for whom residential re-admission was under active consideration. The clinically important changes appeared first as reduced suicidality, increased tolerance for regulated states, and growing self-trust and functional capacity, rather than as uniform symptom reduction. Because the process included concurrent medication management, nutrition support, recovery-community involvement, prior therapeutic relationship, environmental change, and intensive relational containment, outcomes cannot be attributed to Shiftwave technology alone.

Key words: complex developmental trauma; suicidality; dissociation; autonomic regulation; case report

1. Background

Young adults with severe developmental trauma frequently arrive in treatment carrying several interlocking presentations at once. In this population, substance use, compulsive sexual behavior, disordered eating, dissociation, and suicidality are less separate disorders than alternative solutions to the same underlying problem: a nervous system organized around

threat, for which calm is unfamiliar and improvement itself can feel destabilizing (van der Kolk, 2014). Polyvagal accounts frame this persistence as autonomic state, rather than conscious appraisal, setting the terms of safety and engagement (Porges, 2011). Talk-based intervention can reach the understanding without reliably reaching that physiology, and body-based approaches that engage the autonomic nervous system directly have been of growing interest for exactly this gap (Ogden, Minton, & Pain, 2006; Payne, Levine, & Crane-Godreau, 2015). Dissociative symptoms — depersonalization, derealization, and feared time loss — add a further layer, and are increasingly understood as a regulatory strategy of an overwhelmed nervous system rather than a separate disease process (Lanius et al., 2010).

Shiftwave is a proprietary technology that delivers structured somatic protocols intended to engage the autonomic nervous system through rhythm, sound, guided language, breath pacing, and sensory input. It is being clinically explored for stress, trauma, and nervous-system regulation. This report describes a phased clinical process with one young adult participant — an exploratory intensive, five weeks of repeated sessions, and a ten-day clinician-supported shared-residence intensive — and is offered as a detailed clinical observation, not as evidence of efficacy.

The participant, P003, had a prior clinical relationship with the treating clinician: he had completed a course of neurofeedback approximately six years earlier, and a historical EEG baseline from that period (July 2020) was available for comparison. He returned to the clinician's care in mid-2026 during a period of significant deterioration, after his addictions counselor had recommended consideration of a 60- to 90-day residential program. The clinical question the process was designed to answer was not whether Shiftwave could resolve his diagnostic picture, but whether structured, repeated, body-based regulation support could help his system access enough stability, flexibility, and self-trust to make continued outpatient recovery viable.

2. Patient Information

2.1 Demographic and Contextual Information

P003 is a 27-year-old man living with roommates in a Midwestern city, active in a structured young-adult recovery community, with a psychology degree completed and graduate training scheduled to begin in late August 2026. His parents are closely involved in his care and participated in portions of the June intensive; his father accompanied him on the flight to Oregon to ensure safe arrival, then returned home.

2.2 Chief Concerns and Presenting Context

P003 entered the process in early June 2026 during marked deterioration: escalating dissociative and derealization episodes, some involving feared time loss and nighttime wandering; recent acute suicidal ideation on a background of chronic passive ideation; severely disrupted sleep (typically three to four hours per night); and overwhelming shame. His primary therapist was on leave, and his addictions counselor had expressed concern serious enough to recommend a higher level of care. He described his nervous system in his own words as "out of whack" and "dysregulated," with difficulty describing the experience beyond a sense of lost control.

2.3 Medical and Psychiatric History

P003's history includes severe and prolonged developmental trauma beginning in early childhood and continuing through adolescence — sexual exploitation, physical violence, coercion, and life-threat experiences by an older youth and others — hidden from his family at the time and still only partially disclosed to them, together with a later sexual assault in young adulthood. He carries significant grief and survivor guilt connected to the deaths of several close friends in recovery, an event in which he had helped organize the search for a missing friend. Diagnoses reported by his psychiatrist include alcohol dependence and cannabis dependence (in sustained remission), post-traumatic stress disorder, borderline personality disorder, obsessive-compulsive disorder connected to sexual compulsion, anorexia nervosa (restricting type), and an unspecified mood disorder. He has completed four residential treatment episodes over six years. Current medications at the start of the process were oxcarbazepine 600 mg at bedtime, sertraline 25 mg daily, and cyproheptadine 4 mg as needed for sleep or appetite; quetiapine 25 mg (one to two tablets as needed for sleep) was added around the start of the July intensive. He is followed by a dietician on a structured meal plan of approximately 4,800 kcal/day.

A structured self-report battery completed on the first morning (June 7) documented the baseline picture quantitatively. The PCL-5 total was 71, far above the 31–33 range indicative of probable PTSD (Bovin et al., 2016), with maximal scores on intrusion, negative self-belief, self-blame, hypervigilance, and risk-taking items. DASS-21 depression fell in the extremely severe range (42), anxiety at the extremely severe boundary (20), and stress in the severe range (26). The GAD-7 was 17 (severe). The neuropsychiatric symptom screen (NPQ) flagged severe anxiety (283), depression (280), mood instability (225), fatigue (267), sleep disturbance (300), and suicidality (267). The embedded OCD inventory was moderate (155), the Epworth Sleepiness Scale was 10, and screening instruments reflected his substance history in remission (AUDIT 8, driven by historical items; DAST 5). These baseline values are reported as the clinical context the process was working within, not as diagnostic conclusions.

2.4 Developmental and Social History

P003 described a life organized around role management: the "perfect victim" for his abuser, the "perfect son" for his family, the peacekeeper between his parents, and a background character in ordinary life. Providers described a central pattern of struggling to tolerate stability — approaching progress and then destabilizing himself, in a repeating cycle of breaking down, becoming desperate, receiving care, rebuilding, and breaking down again — with shame and self-punishment at the core. At the same time, he is deeply connected: loved by many people, highly engaged in a structured recovery community he credits with changing his life, close to his sponsor and counselor, and motivated by a desire to eventually work with trauma and eating-disorder populations, especially men. He is imaginative and creative — a lifelong reader of fantasy literature, a writer, a Dungeon Master who builds collaborative story worlds — and his identification with the hero's journey, endurance, and the possibility of a sudden narrative rescue became clinically important material during the intensive.

3. Clinical Findings

3.1 Presentation at the Exploratory Intensive (June 7)

P003 arrived with his parents for a single-day exploratory intensive intended to gather baseline data and assess whether his physiological state could shift toward regulation with structured support. A defining observation emerged in the first protocol: during a low-intensity introductory session he did not adjust the vibration at all, later reporting that he "froze," and described feeling activated, agitated, and panicked afterward. Quiet, low-intensity stimulation — which might be expected to feel gentle — evoked freeze rather than settling. The working formulation from day one was that calm itself was unfamiliar and potentially threatening to his system, and that agency (the capacity to choose, adjust, and stop) would need to be built before depth.

3.2 Observational Findings Across the Process

The following observations are drawn from the clinician's session sheets and observer forms, daily written summaries, provider correspondence, and audio-recorded session and integration logs kept throughout the June–August process. Because the work often unfolded in real time — during protocols, meals, drives, walks, post-protocol integration, and ordinary decisions — the recordings helped preserve P003's own language and reduce reliance on memory alone. These observations are offered as clinical observations rather than measured effects.

Repetition and Familiarity as Regulation

Across the June sessions, repetition of the same protocols visibly changed P003's response. On June 7, repeated exposures to the same protocol were accompanied by rising heart-rate variability on the session biometrics (approximately 32 to 51 across the day) and progressively more nuanced state descriptions — from panic, to apprehension, to tension, to tired calm. He moved within one day from freezing during the first protocol to actively exploring the intensity control across its full range, and finally to choosing progressively lower settings. Familiar protocols became anchors: he returned to the same two or three repeatedly, and his stated first question shifted from "am I doing this right?" toward "what does my body need right now?"

Calm as Threat, and the Identity Cost of Improvement

The most distinctive clinical finding of the June phase was that regulation itself triggered threat. Settling into calm reliably activated anticipatory fear — in his words, waiting for "the other shoe," and "no rest for the wicked, no peace for the good." He articulated the identity layer directly: if he improves, "then I'm not sick and I'm not ill," and if he shows progress, "maybe none of it was really that bad." Improvement threatened an identity organized around being broken, and this — not symptom intensity — became the central treatment target.

Clinical Language Note

The terms *threatened activation* and *connected activation* are not established diagnostic categories or validated research constructs. They are clinician-generated descriptive terms developed by the treating clinician to organize repeated observations across this case and related clinical work. They are used here to describe clinically observed differences in how heightened physiological or emotional activation appeared to organize in P003's nervous system: either toward protection, shame, collapse, compulsion, dissociation fear, or externalized reality-testing, or toward embodiment, connection, agency, creativity, grief, hope, and adult choice.

A useful working distinction emerged across the process between *threatened activation* and *connected activation*. Threatened activation refers here to heightened physiological or emotional intensity that P003's nervous system appeared to interpret as danger, shame, loss of control, or evidence that something was wrong with him. In these states, activation tended to organize toward freeze, dissociation fear, self-punishment, compulsive urgency, collapse, rebellion, compliance, or the need for external authority. Connected activation, by contrast, refers here to heightened energy that remained linked to embodiment, relationship, creativity, agency, curiosity, movement, grief, hope, and future orientation. The treatment task was not to eliminate activation, but to help P003 begin differentiating activation that signaled threat from activation that could be metabolized as aliveness, choice, anger, grief, desire, creativity, or adult responsibility.

Protocol Differentiation

P003's responses varied sharply and informatively by protocol. An unguided, sensory protocol (Sensorial) became his most reliable route back into his body when numb, floaty, or dissociative; after one session he described the felt result as "this place is occupied." A deeper bilateral-stimulation protocol (Labyrinth), first delivered as its audio track paired with looping Sensorial haptics, produced the first session in which the clinician saw his body appear genuinely peaceful; he fell asleep in a way that read as settling rather than collapse, and afterward said the music "gave me something to follow." The same protocol later proved powerful in the opposite direction — "very forced presentness ... a 30-minute battle between unconscious and consciousness ... which I think I need" — and he named the central conflict of the work after one such session: "I need to be present. I don't want to be present." Guided, imagery-rich protocols aligned with his inner world (Evolver, with its forest and journey imagery) functioned as familiar entry points, while water-based content was double-edged: he loves rivers, but certain immersive water sounds activated trauma associations, and a goal of "reassociating" with water emerged as its own thread. Breath-heavy protocols were declined when his body lacked capacity for them — itself a gain in body-listening.

Dissociation, Reality-Testing, and Collaborative Safety

Dissociative episodes escalated in late June, including a session (June 30) to which he arrived feeling "not real," afraid of losing time, with a coin in his shoe as a grounding tool. The clinician's observation in that session was the mismatch: he reported feeling extremely dissociative while appearing steadier, with more eye contact, than she had seen before — raising the working question of whether some of what his system flagged as dissociation was in fact unfamiliar presence. He asked directly for reality-testing ("I need you to tell me that I'm not crazy") and could receive brief, grounded answers and keep functioning. Diagnostic fears (schizophrenia, dissociative identity disorder — the former connected to family history) were held with curiosity rather than resolved prematurely. Collaborative safety practices emerged that he helped design: a 40-minute shower check because he knew he could lose time in water, door alarms during the intensive that he tested himself, lights left on for orientation, and location-specific agreements for independent time.

The Oregon Intensive: Pacing, Integration, and Self-Trust

The ten-day intensive (July 21–30) deliberately inverted the density of a conventional program: one or two protocols on most days, embedded in sleep, food, nature, music, creative work, and protected post-protocol integration time. Formal protocol work was deferred on the arrival day because his body needed orientation, food, a shower, and sleep first — documented as an intervention, not a missed session. Key observations across the ten days included: reported sleep of about ten hours with a wearable sleep score of 84 (against a recent score of 23) after the first full night; deep protected material surfacing through Labyrinth (a "furious middle" between warring parts, and the link between held anger and self-destructive sexual acting out), with his stop-signals honored; an embodied experience of hope at a waterfall ("hope," located in the body, followed by spontaneous writing and a request for watercolors — he travels with a watercolor set); a low-capacity day navigated without collapse (fatigue, feared medical testing completed independently, rest chosen deliberately); supported driving for the first time in months, including city traffic, with him monitoring his own state aloud; paranoia and obsessive fear episodes named in real time and answered with brief reality-testing and contact with a safe friend; and a consequential autonomy decision — whether to extend the trip alone up the coast — worked through desire, rebellion, finances, and parental anxiety to a grounded conclusion ("I think I'm just gonna go home"). During the entire intensive there was no nighttime wandering, no observed time loss, and no suicidal crisis; suicidal ideation, by his own report, was not a feature of the window despite the depth of material processed.

The Mother–Son Nervous-System Link

A single phone call on July 29 produced the clearest activation of the intensive. The content of the call was not extraordinary; the clinically relevant stimulus appeared to be his mother’s anxious and disappointed tone. Immediately afterward, P003 showed body-level shutdown, sensory distortion (“everything ... underwater”), and an abrupt loss of appetite strong enough that he could not finish lunch. This sequence suggested that maternal distress functioned as a powerful autonomic cue for P003, activating his body before he could cognitively evaluate the situation.

The clinician held this as a nervous-system hypothesis rather than a causal conclusion. P003 was conceived and carried after the death of an older sibling, and the prenatal stress literature supports the possibility that maternal stress during pregnancy may shape the developing child’s stress-response system (Van den Bergh et al., 2020). In this context, it is clinically plausible that P003’s body learned very early to register maternal distress as information about safety, responsibility, and belonging. The treatment target was therefore not separation from his mother, blame of his mother, or dismissal of her concern, but differentiation: helping P003 remain in his own body while his mother’s distress was present.

He used sensory grounding, chose moving water over isolation, ate once his body settled, and made his extended travel decision only after returning to his body. The clinician identified this mother–son nervous-system link as a principal target for future work, including possible structured dyadic regulation work using two Shiftwave chairs.

Question-Framing and Self-Trust

A recurring communication pattern became a treatment focus: when contemplating an autonomous choice, P003 reflexively asked others negatively framed questions — "How crazy would it be...?", "How wrong would it be...?", "Is this a bad idea?" — which reliably invited fear-based answers that he then experienced as confirmation that he could not trust himself. The intervention was to practice asking from clarity instead ("here is what I am considering; what should I be weighing?"), and by the last days he was drafting and delivering exactly such communications to his parents. His own late-intensive summary of the underlying discovery: he had not realized "how much I attach my reality to other people's perceptions."

3.3 Quantitative Self-Report Findings

State anxiety and affect were measured before and after protocol sessions using the State-Trait Anxiety Inventory, state form (STAI-S, range 20–80, lower is better) and the 20-item Positive and Negative Affect Schedule (PANAS; each subscale 10–50, higher positive and lower negative are better). Many sessions — particularly repeated protocols within a single day — captured only post-session forms; those entries appear with post-only values, and a dash (—) indicates data not recorded for that cell. Session 1 is the beginning-of-day baseline on June 7 before any protocol. Table 1 presents all recorded sessions; Figure 1 shows the session-by-session change in state anxiety and Figure 2 the change in affect.

Table 1. Pre/Post Self-Report Scores by Session (STAI = STAI-S state anxiety, 20–80, lower is better; PA and NA = PANAS positive and negative affect subscales, 10–50)

No.	Date	Time	Protocol(s)	STAI pre	STAI post	PA pre	PA post	NA pre	NA post
1	6/7	9:15am	Beginning-of-day baseline (no protocol)	69	—	18	—	41	—
2	6/7	11:17am	This is Shiftwave	65	—	18	—	30	—
3	6/7	11:55am	River Master	—	61	—	17	—	29
4	6/7	12:45pm	Evolver (×3, with BioDrive)	63	53	16	14	25	21
5	6/7	1:35pm	SS Meditate / BioDrive	—	46	—	15	—	18
6	6/7	3:30pm	Sensorial / Evolver (end of day)	—	56	—	13	—	20
7	6/8	11:00am	Evolver / SS Meditate	64	52	16	17	30	21
8	6/9	11:00am	Evolver / SS Meditate	60	48	21	24	21	22
9	6/10	2:00pm	Brake Time / Emerald Wolf / Evolver	67	58	13	12	27	16
10	6/11	11:00am	Evolver / SS Meditate	57	44	10	16	19	15
11	6/14	12:30pm	Evolver 55%	58	56	13	14	18	21

No.	Date	Time	Protocol(s)	STAI pre	STAI post	PA pre	PA post	NA pre	NA post
12	6/14	1:00pm	Controlling the Controllables	—	44	—	23	—	13
13	6/14	1:25pm	SS Meditate 30 BioDrive	—	37	—	21	—	10
14	6/14	2:00pm	Breathe & Be 50%	—	37	—	25	—	10
15	6/14	2:30pm	Soul Survivor 50%	—	53	—	19	—	24
16	6/14	2:50pm	Sensorial 55%	—	56	—	15	—	24
17	6/14	3:15pm	SS Meditate 30 BioDrive 50%	—	34	—	21	—	10
18	6/16	4:00pm	Evolver 45%	62	61	12	15	24	19
19	6/16	5:15pm	River Master / BioDrive	—	53	—	18	—	18
20	6/16	6:00pm	SS Meditate 30 BioDrive 45%	—	53	—	18	—	19
21	6/18	10:05am	Breathe & Be 50% / SS Meditate BioDrive	43	32	22	25	10	10
22	6/24	—	Sensorial / SS Meditate BioDrive 45%	67	56	10	13	26	20
23	6/25	5:40pm	Evolver 50% / Sensorial 50–60%	56	52	10	12	15	13
24	6/27	3:15pm	Mastering the Present Moment 50% / Sensorial / Labyrinth with Sensorial	63	52	20	11	27	18
25	6/30	2:35pm	Sensorial 50–100% / Labyrinth 70%	69	57	10	12	25	18
26	7/22	9:25am	Evolver 45%	55	45	12	10	20	16
27	7/22	7:15pm	Labyrinth (with Sensorial haptics)	51	51	13	22	17	18
28	7/23	11:15am	Evolver 45%	56	58	16	26	20	14
29	7/24	8:00pm	SS Meditate 30 / BioDrive 55%	45	48	17	18	11	10
30	7/25	1:30pm	Evolver 50%	42	39	24	23	16	10

No.	Date	Time	Protocol(s)	STAI pre	STAI post	PA pre	PA post	NA pre	NA post
31	7/26	11:45am	Labyrinth with Sensorial 55%	54	56	13	11	21	25
32	7/28	9:06pm	SS Meditate 30 / BioDrive 50%	41	36	20	25	12	10
33	7/29	12:30pm	Labyrinth with Sensorial 50%	39	39	23	28	11	11

Across the 20 sessions with paired pre/post STAI-S data, state anxiety fell in 15, rose in 3, and was unchanged in 2, with the group mean moving from 55.6 to 49.6. The pattern behind those numbers is at least as informative as the numbers themselves. First, the within-session reductions were largest and most consistent in June, when pre-session anxiety was high (June paired mean 60.8 falling to 51.8 within session). Second — and unlike the within-session picture — his baseline moved: pre-session anxiety during the Oregon intensive averaged 47.9, roughly thirteen points below the June baseline, and the final recorded sessions of the intensive began at 39–41, the lowest starting values in the record. As the baseline fell, within-session change flattened (Oregon paired mean 47.9 to 46.5), and the three small increases all occurred in Oregon sessions that opened deep material (two Labyrinth sessions and the morning after an emotionally loaded evening). The clinician's contemporaneous interpretation, preserved in correspondence, was that in trauma-informed use the goal of a session is not always a lower number afterward: protocols that stir protected material so it can reorganize may transiently raise state anxiety while the underlying baseline improves — which is the shape this record shows.

Affect followed the same two-level pattern. Across the 20 sessions with paired PANAS data, negative affect fell within session from a mean of 19.8 to 16.4 (falling in 14 of 20), while positive affect rose modestly within session (15.6 to 17.4). Between phases, both subscales shifted favorably: negative affect started lower in Oregon (16.0 versus 22.2 in June) and positive affect started higher (17.2 versus 14.4) and rose further within Oregon sessions (to 20.4) — the largest single-session positive-affect gains of the record (sessions 27, 28, 32, 33) all occurred during the intensive. As with P006, the work reduced distress more reliably than it manufactured good feeling; the difference in this case is that by the intensive's final days, positive affect was genuinely rising as well.

BioDrive indicates a biofeedback-enabled Shiftwave protocol.

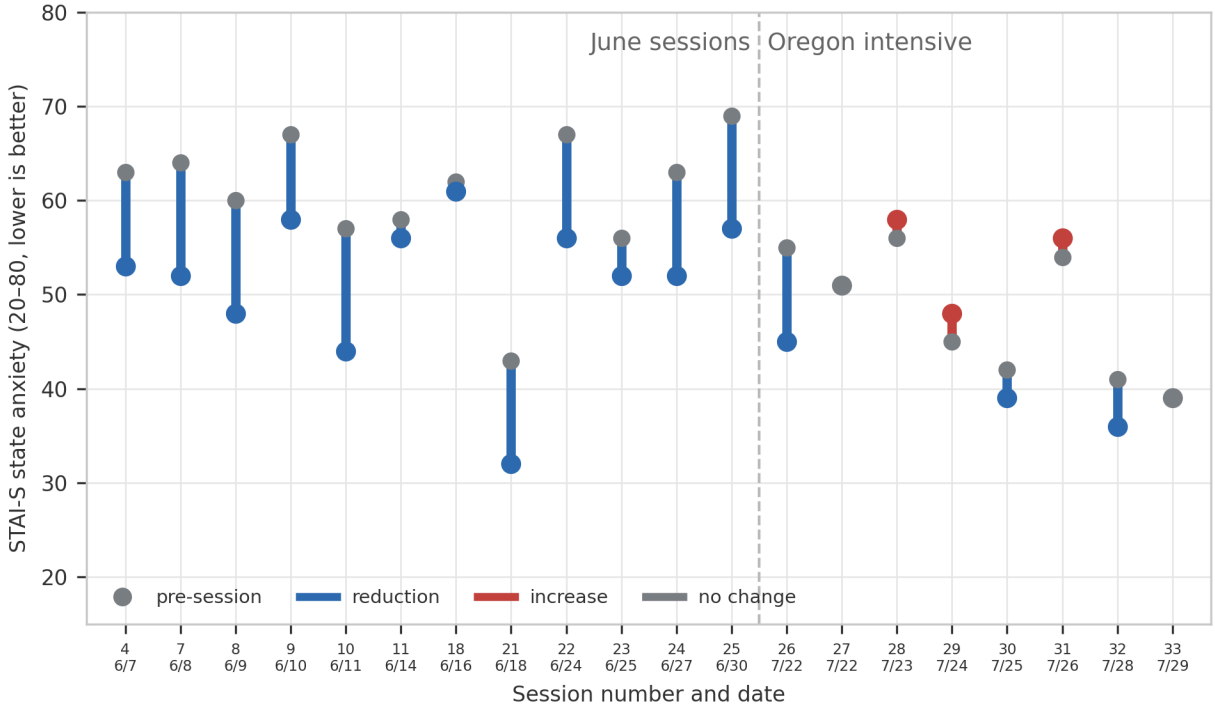

Figure 1. Session-by-session STAI-S state anxiety, pre to post, across the 20 paired sessions. Blue indicates a within-session reduction, red an increase, grey no change; grey dots mark pre-session scores. The dashed line separates the June phase from the Oregon intensive; note the drop in pre-session baseline between phases.

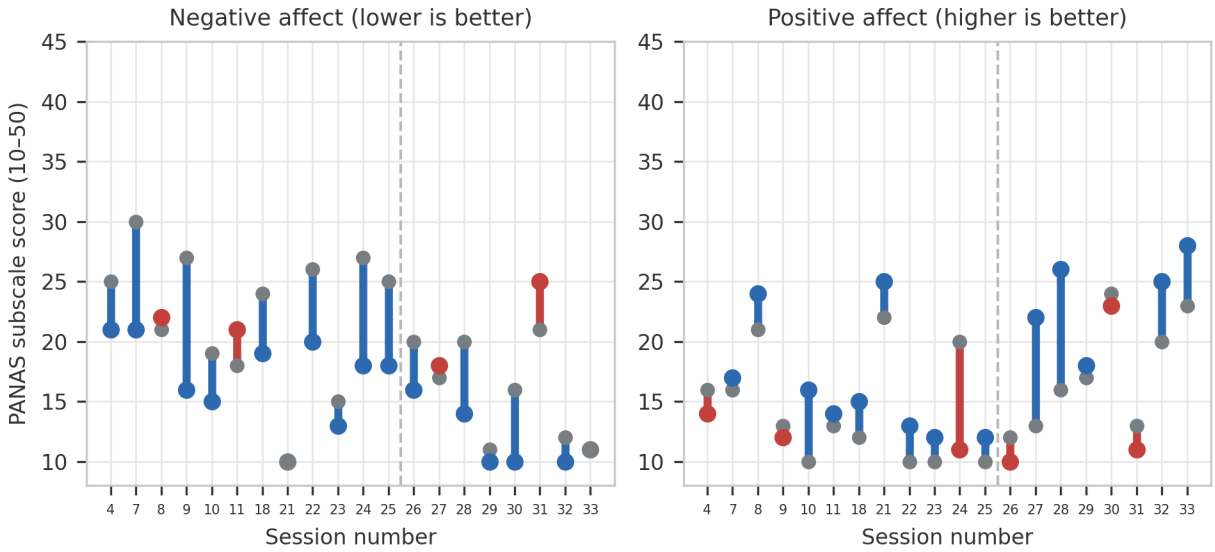

Figure 2. Session-by-session affect, pre to post. Negative affect (left) declined within most sessions; positive affect (right) rose most clearly during the Oregon intensive (right of the dashed line in each panel).

4. Timeline

July 30, 2020: Historical EEG baseline recorded during a prior course of neurofeedback with the treating clinician (retained for comparison).

Spring 2026: Marked deterioration — escalating dissociative episodes, acute suicidal ideation on a chronic passive background, three to four hours of sleep per night. His addictions counselor recommends consideration of a 60- to 90-day residential program; his psychiatrist does not support inpatient admission. His parents seek an alternative evaluation.

June 7, 2026: Single-day exploratory intensive. Neurocognitive battery (CNSVS) and self-report inventories completed in the morning; EEG mini-map at six placements; six recorded protocol exposures across the day with parents present for portions; heart-rate variability rising across repeated protocols. Freeze response to the first low-intensity protocol establishes "calm as threat" as the working formulation.

June 8–11, 2026: Four consecutive independent sessions (Evolver, SS Meditate BioDrive) with pre/post STAI-S and PANAS each day, following a deliberate "front-loading" strategy of repeated, predictable exposure.

June 14, 2026: Four-hour intensive. Six protocols recorded; end-of-day EEG baseline repeated. Reports from the intervening week include staying calm through two significant peer crises, followed by an energy collapse — the first clear observation of the improvement–destabilization cycle inside the process.

June 16–30, 2026: Continued sessions one to three times weekly. June 23: consultations with his psychiatrist and addictions counselor. June 27: first pairing of Labyrinth audio with looping Sensorial haptics. June 30: session during acute derealization ("I need you to tell me that I'm not crazy"); Sensorial used as grounding entry, Labyrinth as "forced presentness."

Late June – mid-July 2026: Dissociative "fugue-like" episodes reported to his counselor and primary therapist increase; the counselor expresses concern that Shiftwave may be making him worse. During the same window, P003 raised fears about schizophrenia and dissociative identity disorder, following conversations with his primary therapist and in the context of family history. These concerns were held clinically but not treated as established conclusions. During the same window, suicidal ideation — present before the process — is absent. The treating clinician and family proceed with the planned intensive; his father accompanies him on the flight.

July 21–30, 2026: Ten-day intensive in coastal Oregon. Arrival day devoted to orientation, food, and sleep; door alarms installed, and then tested by P003 himself. Daily structure of one to two protocols embedded in nature, food, music, creative work, and integration time. July 24: STI testing completed independently in Eugene. July 28: supported driving to and through Portland — first driving in months. July 29: maternal phone call produces the strongest activation of the intensive, worked through grounding, nature, and food to a grounded decision to return home as planned. No wandering, time loss, or suicidal crisis during the ten days.

July 30 – August 7, 2026: Return home and re-entry. Post-intensive testing deliberately deferred so that measurements would reflect a settled state rather than travel fatigue. August 7: unexpected encounter with a former girlfriend at a recovery meeting produces a strong anxiety spike; he stays, does not flee, and plans a balanced weekend.

August 8, 2026: Post-intensive assessment — updated EEG baseline (six placements, morning, before cognitive testing), CNSVS battery, and full self-report inventory set; consent signed and case-study review process discussed.

5. Diagnostic Assessment

Pre-Intensive Neurocognitive Baseline (CNSVS)

A computerized neurocognitive battery (CNS Vital Signs) was administered on the morning of June 7 to characterize P003's cognitive baseline. Most domains fell in the average range, with reasoning clearly low (standard score 80, 9th percentile) and working memory (91), processing speed (90), and verbal memory (93) at the lower end of average. All validity indicators were acceptable. The embedded symptom scales documented the heavily loaded clinical picture carried in Section 2.3. The pre-intensive domain values are reported alongside their post-intensive counterparts in Table 2 (Section 7.1) so the change can be read in one place.

Pre-Intensive EEG Baseline

An EEG mini-map was recorded on June 7, 2026 using a portable two-channel neurofeedback system (EEGer), sampled at approximately 256 Hz. The protocol steps a single recording electrode through six placements in a fixed order — Fz-A1, Cz-A1, Pz-A1, C3-A1, C4-A2, and C3-C4 — capturing roughly 60 seconds eyes-open and 60 seconds eyes-closed at each. Placement and eye condition are reconstructed from the recording's block structure, and only the first data channel is interpretable; both are described in the Appendix. The EEG remains descriptive single-channel monitoring, and its pre/post comparison is presented in Section 7.2. A repeat mini-map was recorded at the end of the June 14 intensive, and the July 2020 recording from his earlier neurofeedback episode provides a historical reference; both appear in the Appendix.

6. Therapeutic Intervention

6.1 Overview of Design

The process was not structured as formal trauma processing or exposure therapy. Its primary aim was to help P003's nervous system experience safety, rhythm, choice, state-shifting, embodied awareness, and recoverability through repeated but carefully paced Shiftwave exposure within an attuned relational environment. Three features distinguished the design.

First, the process was phased rather than concentrated. The June 7 exploratory day established baselines and tested tolerance; the following five weeks deliberately front-loaded repeated, predictable exposure to a small number of familiar protocols; and only after that foundation existed did the ten-day Oregon intensive move into deeper trauma-integration work.

Second, the Oregon intensive was intentionally low in protocol density but high in clinical engagement. Most days included only one or two Shiftwave protocols, not because the work was light, but because the material that emerged required time, relationship, movement, food, nature, and ongoing clinical processing in order to be metabolized. Protocols often functioned as openings or organizing experiences; the deeper intervention frequently unfolded afterward —

during meals, drives, walks, waterfalls, family phone calls, medical appointments, art, music, rest, and ordinary decisions.

Across the ten days, the clinician and participant explored and challenged the stories through which P003 had organized his survival: whether he could trust himself, whether improvement invalidated his suffering, whether he had to live for others, whether struggle required apology, whether solitude was dangerous, whether provider or parent fear should become the only data, and whether he could begin to walk in the world as an adult self rather than only as a trauma-identified self. This work included cognitive and narrative reframing, parts-informed inquiry, attachment-informed processing, and values-based discernment, all paced according to his state and capacity. Clinically, the process included direct trauma disclosure, grief, shame, survivor guilt, abuser-abandonment themes, safe male attachment, family-role patterns, anger and punishment, eating-disorder activation, dissociation fears, reality-testing, and repeated practice making choices from grounded discernment rather than fear, rebellion, compliance, or collapse.

Third, agency was treated as an active therapeutic target rather than a courtesy. P003's choices around protocol selection, intensity, duration, stopping, speaking or not speaking afterward, eating, resting, walking, driving, asking for help, spending time alone, and deciding whether to extend or end the trip all became primary clinical data. The intervention was not simply whether his symptoms decreased, but whether he could remain embodied, connected, and choiceful while difficult material was active.

The Oregon intensive was conducted in a rented residence, with the clinician and participant staying in the same living environment throughout the intensive. This shared-residence structure allowed the clinician to observe and support regulation not only during formal protocols, but across the ordinary and highly revealing conditions of daily life: waking, sleeping, eating, showering, transitions, conflict, fatigue, relational activation, post-protocol integration, independent time, safety planning, and re-entry preparation. The arrangement should not be understood as residential treatment or facility-based care, but as a clinician-supported shared-residence intensive in which the living environment itself became part of the clinical field.

Given his history — including recent acute suicidality and a counselor's concern that the work might be destabilizing him — safety was structured collaboratively rather than imposed. He tested the door alarms himself, set the shower timer interval himself, named the specific tree he would sit under during independent time, and agreed to return times. The distinction between containment and surveillance was explicit and, in the clinician's judgment, therapeutically necessary for a participant whose trauma history is organized around control by others.

The clinical arc of the Oregon intensive moved from arrival and orientation, to protocol-supported opening of protected material, to nature-based integration, to testing autonomy in ordinary life. Early in the intensive, the primary intervention was helping his body arrive: food, sleep, showering, environmental orientation, and collaborative safety. As the week progressed, protocols opened grief, anger, shame, dissociation fears, trauma memory, and questions of self-trust; the hours afterward were used to metabolize that material through conversation, movement, food, water, music, art, rest, and ordinary decisions. By the final days, the work shifted toward adult autonomy: driving, medical testing, independent time, clearer

communication with parents, tolerating relational activation, and deciding whether to extend the trip or return home from a grounded state. The intensive was therefore not a sequence of protocols, but a sustained process of helping P003 translate regulation into lived choice.

6.2 Shiftwave Protocols

Over the process P003 engaged with an introductory protocol ("This is Shiftwave"), Evolver, SS Meditate (15- and 30-minute forms, frequently with the BioDrive variant), River Master, Sensorial, Labyrinth (both as audio paired with looping Sensorial haptics and, later, in its own form), Controlling the Controllables, Breathe & Be, Soul Survivor, Brake Time, Emerald Wolf, Mastering the Present Moment, and Day at the Beach. Selection was individualized session to session based on his stated body need, and vibration intensity was treated as a chosen, adjustable variable rather than a fixed prescription; his self-selected range across the process ran from approximately 20% on the first exposure to 100% during one late-June Sensorial session, most commonly settling between 45% and 55%.

Protocols labeled “BioDrive” were biofeedback-enabled versions of Shiftwave protocols. In these sessions, the participant was not only receiving a fixed somatic protocol, but was also engaging with a biofeedback component designed to support autonomic regulation through real-time physiological responsiveness. BioDrive sessions were therefore interpreted separately from non-biofeedback protocols when clinically relevant, particularly when observing sleep-like settling, heart-rate variability changes, and post-protocol recovery.

By the end of the process he had assembled what amounted to a personal regulation library and could describe its logic: Evolver and SS Meditate BioDrive as reliable grounding and reset options, Sensorial as the route back into his body when numb or dissociative, and Labyrinth as powerful but demanding — to be used with preparation and substantial integration time afterward.

6.3 Non-Shiftwave Intervention Components

The environment and relationship were treated as part of the intervention, not its backdrop. Components included nervous-system psychoeducation; nature exposure that proved central (waterfalls, old-growth forest, the coast, and particularly moving water, near which he first located hope in his body); sleep and nutrition tracked as primary clinical variables alongside a dietician-directed meal plan; music, which he uses fluently to both match and shift state; creative expression, which re-emerged mid-intensive as writing, poetry, and watercolor; real-world exposure including independent medical testing, restaurants, a farmers market, an art museum, and supported driving; graded independent time; and, most consistently, protected post-protocol integration time. Coordination with his psychiatrist, addictions counselor, primary therapist, and dietician continued throughout.

6.4 Clinician-Delivered Therapeutic Processes

To make the clinical work legible for other clinicians, the intensive can be understood as an integrative, state-responsive process rather than the delivery of a single manualized modality. The clinician repeatedly shifted among several overlapping therapeutic functions: trauma-informed pacing and readiness assessment; Shiftwave-assisted autonomic regulation, including BioDrive when used; somatic tracking, interoceptive inquiry, and nervous-system

psychoeducation; collaborative safety planning, grounding/orientation, and brief relational reality-testing; cognitive and narrative reframing, parts-informed inquiry, attachment-informed processing, family-systems differentiation, and values-based discernment; and post-protocol integration through sleep, nutrition, hydration, movement, nature, music, creative expression, graded functional exposure, supported autonomy, and care coordination.

These processes were braided throughout the intensive rather than delivered as separate modules. A drive, meal, walk, family phone call, protocol choice, or moment of independent time could simultaneously function as somatic tracking, exposure, attachment processing, differentiation, and self-trust practice. The organizing clinical question was: what does P003's nervous system have capacity for now, and what process would help him remain present, connected, and choiceful enough to take the next appropriate action?

7. Outcomes and Follow-Up

This section reports the neurocognitive battery, symptom inventories, and EEG recording administered at the August 8 post-intensive assessment, nine days after his return home, followed by the observed and reported changes. Testing was deliberately deferred from the final travel day so that the measurements would reflect a settled state rather than acute travel fatigue.

7.1 Post-Intensive Neurocognitive and Symptom Findings

The neurocognitive battery was repeated on the morning of August 8. The result is genuinely mixed and should be read domain by domain rather than as a composite: the Neurocognition Index was essentially unchanged (103 to 101).

Three domains rose substantially. Reasoning showed the largest change, moving from a standard score of 80 to 117, while working memory increased from 91 to 116 and sustained attention from 100 to 111. Because the reasoning task uses a fixed set of visual matrices across administrations, item familiarity may have contributed to the size of the reasoning gain and should be acknowledged as a limitation. However, the pattern should not be dismissed as simple practice effect. P003's reasoning performance changed not only in score, but in quality: correct responses increased from 8 to 13, commission errors decreased from 6 to 1, and average correct reaction time lengthened, suggesting a shift toward more deliberate, accurate responding rather than faster guessing. The reasoning score should therefore be interpreted cautiously, but not dismissed. Clinically, this is consistent with increased access to abstract reasoning under reduced state pressure — the ability to stay with uncertainty, inhibit impulsive or threat-driven responding, and choose more accurately. The parallel gains in working memory and sustained attention strengthen the interpretation that post-intensive testing reflected improved access to effortful cognitive capacity, while still requiring cautious interpretation due to repeated exposure, improved sleep, and changed testing state.

Two domains declined clearly. Verbal memory fell from 93 to 71, driven by fewer correct recognitions at both immediate and delayed testing. Social acuity fell from 115 to 86, driven by increased commission errors on the emotion-identification task and a reduction in correct identification of negative emotions. This decline should be reported plainly as a decline on the measure, but its clinical meaning is not straightforward. The POET is a rapid emotion-identification task involving happy, calm, angry, and sad faces; in a participant whose

baseline functioning included lifelong hypervigilant scanning of others' emotional states, reduced accuracy for negative-emotion cues may not map simply onto reduced relational functioning. It may reflect decreased threat-monitoring, a shift away from externally focused scanning, fatigue or state effects, or a true decrease in performance on this specific task. Clinically, P003 appeared more embodied, self-referenced, and relationally available at post-assessment, so this finding is best treated as an unresolved but important signal rather than a simple deterioration.

Table 2. CNSVS Domain Standard Scores, Pre- and Post-Intensive (higher is better)

Domain	Pre (6/7)	Post (8/8)	Δ
Reasoning	80	117	+37
Working Memory	91	116	+25
Sustained Attention	100	111	+11
Psychomotor Speed	99	110	+11
Processing Speed	90	99	+9
Motor Speed	106	113	+7
Visual Memory	102	107	+5
Reaction Time	99	101	+2
Simple Attention	108	108	0
Neurocognition Index	103	101	−2
Executive Function	110	107	−3
Cognitive Flexibility	111	106	−5
Composite Memory	97	90	−7
Complex Attention	110	98	−12
Verbal Memory	93	71	−22
Social Acuity	115	86	−29

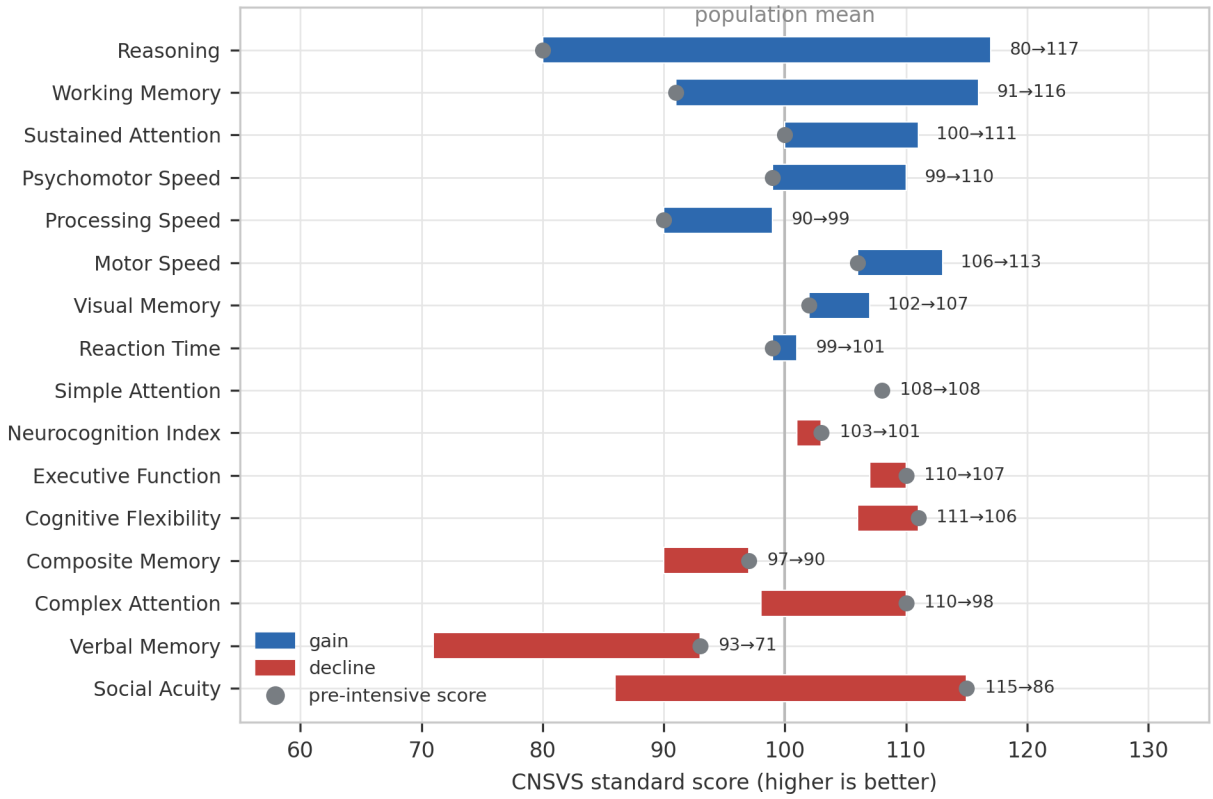

Figure 3. Change in CNSVS standard scores, pre- to post-intensive, ordered by magnitude of change. Blue indicates a gain, red a decline; grey dots mark the pre-intensive score.

The symptom inventories moved more consistently than the cognitive domains, and in the direction the clinical observations would predict. The single most important change is on the suicidality screen, which fell from 267 — the severe range, with "thoughts about ending your life" endorsed as a severe problem — to 0, with every item endorsed as not a problem. This is reported as resolved on the self-report measure because that is what P003 indicated at post-assessment; it should not be read as a conclusion that future clinical risk was permanently resolved. Given his history, ongoing risk monitoring, safety planning, and treatment-team support remain clinically indicated. Sleep, the variable that had most concerned every provider involved, fell from 300 (severe) to 100 (mild), and daytime sleepiness normalized (Epworth 10 to 6). Anxiety, depression, panic, mood instability, impulsivity, and attention all improved, several by large margins, and obsessive-compulsive burden fell from moderate to mild. Not all domains improved to the same degree. DASS-21 anxiety was essentially unchanged, moving from 20 to 22; fatigue decreased from 267 to 200 but remained in the moderate range; and self-reported pain was unchanged at 75. The PCL-5 total fell from 71 to 59 — a 12-point reduction, exceeding the 10-point change cited by the National Center for PTSD as an indicator of treatment response (Marx et al., 2022), though the score remains well above the 31–33 provisional-diagnosis range (Bovin et al., 2016) — with the reduction concentrated in the intrusion and hyperarousal clusters (19 to 16 and 22 to 16) while negative alterations in cognition and mood remained nearly static (24 to 23). His trauma symptoms did not resolve; their intrusive and arousal-driven components eased while the belief-level burden did not.

Table 3. Symptom Scales, Pre- and Post-Intensive (lower is better)

Measure	Pre (6/7)	Post (8/8)	Direction
NPQ Suicide	267	0	resolved
NPQ Sleep	300	100	improved
NPQ Panic	133	33	improved
NPQ Depression	280	140	improved
NPQ Anxiety	283	167	improved
NPQ Mood Stability	225	100	improved
NPQ Impulsive	220	80	improved
NPQ Attention	160	80	improved
NPQ Memory	125	100	improved
NPQ Aggression	50	25	improved
NPQ Fatigue	267	200	improved
NPQ Pain	75	75	unchanged
GAD-7 anxiety	17	10	improved
DASS-21 Depression	42	26	improved
DASS-21 Stress	26	16	improved
DASS-21 Anxiety	20	22	roughly stable
OCD Inventory (mean)	155	75	improved
Epworth Sleepiness	10	6	improved
PCL-5 PTSD (total)	71	59	improved
PCL-5 intrusion cluster	19	16	improved
PCL-5 hyperarousal cluster	22	16	improved
PCL-5 negative cognition/mood	24	23	roughly stable
AUDIT	8	0	improved
DAST	5	2	improved

7.2 Post-Intensive EEG Monitoring

An EEG recording matching the June 7 baseline protocol was collected on the morning of August 8, before the neurocognitive battery. Both recordings contain the same six-placement structure — twelve recording blocks alternating eyes-open and eyes-closed — which makes them comparable placement by placement. Both carry the limitations described in Section 5 and

the Appendix: portable single-channel data, no site or eye labels in the export, roughly one minute per condition, and no normative database against which to z-score. These remain descriptive state-monitoring data, not a clinical quantitative EEG. Results are reported for the recording channel at each of the six placements; recording parameters appear in Table 4, alpha amplitudes in Table 5, and Figure 4 shows the change at every placement.

Table 4. EEG Recording Parameters

Recording	Date	Duration	Sampling	Placements	Blocks (EO/EC)	Epochs retained
Pre	6/7/2026	16.9 min	~256 Hz	6	6 / 6	97%
Post	8/8/2026	19.2 min	~256 Hz	6	6 / 6	100%

Every epoch at every placement survived artifact rejection in the post-intensive recording (894 of 894); 97.1% survived in the pre-intensive recording (701 of 722), with per-placement retention ranging from 94% to 100% and the losses distributed across placements rather than concentrated in one. The two sessions are of comparable signal quality, and no part of the comparison below rests on one recording being cleaner than the other.

Table 5. Alpha (8–12 Hz) Amplitude by Placement (μV)

Placement	Pre EC	Post EC	Δ EC	Pre EO	Post EO	Δ EO
Fz-A1	3.60	3.64	+1%	2.16	2.89	+34%
Cz-A1	4.41	4.02	−9%	2.74	2.39	−13%
Pz-A1	4.02	5.09	+26%	1.66	3.64	+119%
C3-A1	3.73	3.51	−6%	2.18	3.31	+52%
C4-A2	3.78	3.71	−2%	2.47	2.85	+15%
C3-C4	2.36	1.76	−25%	1.37	1.26	−8%

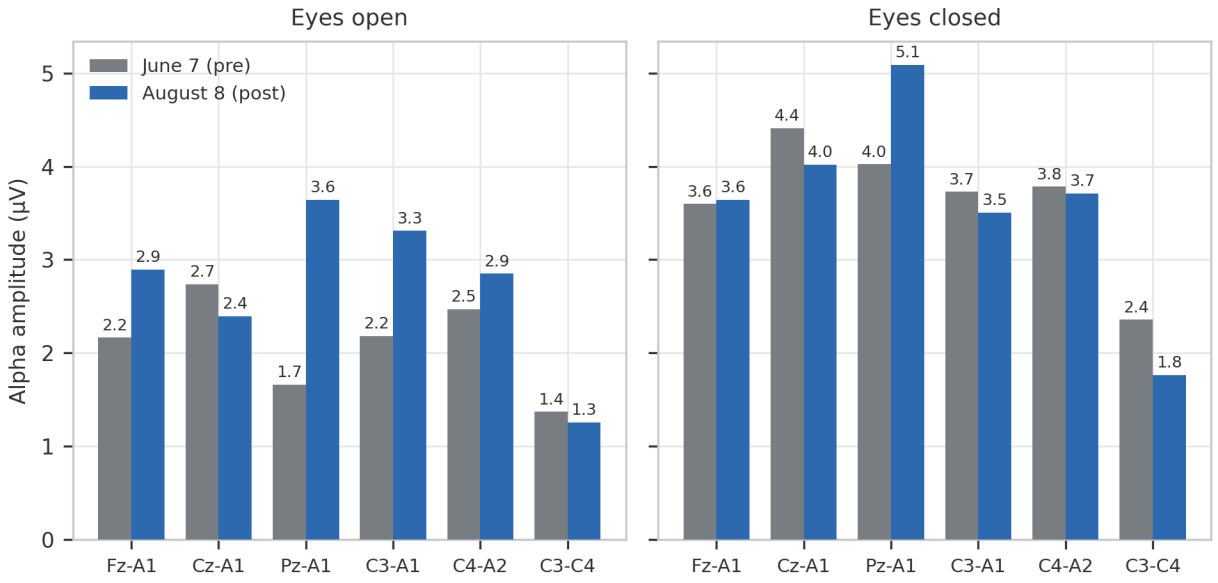

Figure 4. Alpha amplitude at each of the six placements, pre- to post-intensive. Grey bars are the June 7 recording; blue bars are August 8.

Read placement by placement, the recordings show no global change in brain activity. There was no consistent whole-head shift in delta, theta, or beta, and the direction of change varies by placement, as Figure 4 shows for alpha.

Three descriptive observations are worth recording. First, the ordinary posterior dominance of eyes-closed alpha was better defined at the post recording. At baseline the eyes-closed alpha maximum sat at the vertex (Cz 4.41 µV) with the parietal placement lower (Pz 4.02 µV); at the post recording the expected parietal maximum was restored and larger (Pz 5.09 µV, the highest value in either session). Second, frontal theta relative to alpha fell: the Fz eyes-closed theta/alpha ratio moved from 1.15 to 0.87, and the same ratio fell at four of the six placements. A frontal ratio above 1.0 at baseline, in a sleep-deprived participant, is consistent with the drowsy, effortful presentation recorded that morning. Third, eyes-open alpha rose at four of six placements, most markedly parietally, which narrows the eyes-open to eyes-closed reactivity ratio (Pz 2.42 to 1.40). Taken together these are consistent with a lower-arousal, less effortful recording state on the day of the post-intensive assessment, with better-organized posterior alpha. All of these statements are descriptive; with two recordings, one interpretable channel, and roughly one minute per condition, no inference beyond description is available.

For historical context, the 2020 recording from his earlier neurofeedback episode showed higher eyes-closed alpha at every placement than either 2026 recording (for example Fz 5.27 µV, Pz 5.19 µV) and a frontal theta/alpha ratio of 0.73. Relative to that historical picture, the June 2026 baseline showed reduced alpha and an elevated frontal theta/alpha ratio, and the August recording moved the ratio partway back toward the 2020 value without restoring the amplitudes. Six years, different equipment sessions, different life circumstances, and different medications separate those recordings; the comparison is offered as context, not as a measure of recovery.

7.3 Observed Clinical and Functional Changes by the End of the Intensive

By the end of the ten-day shared-residence intensive, the most clinically meaningful changes were not only behavioral or situational. They were functional, relational, narrative, and state-dependent. P003 showed increased capacity to remain present, connected, and choiceful while shame, dissociation fears, eating-disorder activation, family distress, grief, trauma memory, and autonomy conflict were active.

One way to understand this shift is that activation became more differentiated. Earlier in the process, heightened intensity often appeared as threatened activation: calm, hope, desire, anger, autonomy, or visibility could register as danger, shame, loss of control, or proof that something was wrong with him. By the end of the intensive, activation did not always collapse into threat. At several points, heightened energy remained connected to life: writing after the waterfall, requesting watercolors, driving while monitoring his state, using music to organize and shift emotion, asking clearer questions, considering adult autonomy, and allowing hope, grief, anger, and desire to be present without immediately turning them into self-punishment, escape, or externalized certainty.

Across the ten days, the clinician and participant repeatedly worked with the stories through which P003 had organized survival: that calm meant danger; that improvement might invalidate the severity of what happened to him; that his body was something to conquer; that support meant surrendering his own perception; that solitude was either dangerous or selfish; that parental or provider fear should become the final authority; and that adult desire was either rebellion, impulsivity, or wrongdoing. These were not abstract conversations. They occurred while he was trying to eat, recovering from protocols, walking near water, riding in the car, deciding whether to drive, reality-testing dissociation fears, responding to family phone calls, and considering whether to extend or end the trip.

The intensive included direct trauma disclosure, grief, survivor guilt, shame, safe male attachment themes, anger and punishment, fear of being “crazy,” relationship to his body, compulsive and self-punishing patterns, family-role organization, and the central question of whether he could begin to live for himself without abandoning connection. Much of this work happened outside the formal protocols. Protocols often opened or organized material; the hours afterward became the clinical field in which that material was explored, challenged, metabolized, and translated into ordinary choices.

Functionally, this translated into several observable markers. P003 completed a feared medical appointment independently. He drove for the first time in months, for several hours, through unfamiliar city traffic, while monitoring his own state and naming the conditions under which he would stop. Driving functioned as graded functional exposure and a corrective autonomy experience, rather than as a simple behavioral milestone. He spent unaccompanied time in the forest within a collaboratively defined safety structure and returned on time. He followed an unexpected body impulse to walk into a grocery store for a popsicle and was able to treat the impulse as information rather than immediately pathologizing it. He got a haircut. He asked for time alone and framed it as a need rather than an apology. He tolerated hearing “no” from his parents about extending the trip, felt the pull toward rebellion, and ultimately chose to return home from a grounded adult state rather than from compliance, defeat, or defiance.

One of the clearest markers of change involved the way P003 sought feedback when contemplating autonomous choices. The treating clinician first noticed and named a recurring pattern: when he asked questions from fear — “Is this crazy?” “Is this bad?” “How wrong would it be?” — the wording often invited fear-based responses from others, which then reinforced his belief that he could not trust himself. Once this pattern was reflected back to him, P003 was able to begin identifying it in real time. During the intensive, he practiced shifting from fear-framed questions toward clearer, more grounded communication: naming what he was considering, identifying the risks, asking what data mattered, and remaining responsible for listening to himself. This represented a communication-restructuring and self-trust intervention into a long-standing pattern: not removing his need for support, but helping him stay present enough to receive feedback without surrendering authority over his own perception. Clinically, this functioned as a communication-restructuring and self-trust intervention: P003 practiced asking for feedback without surrendering authority over his own perception.

The July 29 activation following a phone call with his mother became one of the strongest tests of integration. The content of the call was not extraordinary, which made the response clinically more important rather than less. His body appeared to respond less to the content of the conversation than to the nervous-system cue carried through her anxious and disappointed tone. What followed was body-level shutdown, sensory distortion, appetite disruption, and the pull toward either rebellion or collapse. Instead of acting immediately from that state, P003 used sensory grounding, chose moving water over isolation, ate once his body returned, and made a consequential decision only after he was more present. The decision to return home mattered clinically not because going home was inherently the “right” answer, but because of the state from which he chose it. This sequence combined family-systems differentiation, somatic grounding, and values-based decision-making.

Two absences were as clinically significant as these visible gains. Across ten days in an unlocked shared residence, with considerable independent time and the deepest trauma material of the process surfacing, there was no nighttime wandering, no observed episode of lost time, and no suicidal crisis. These absences do not prove that risk was gone. They suggest that under conditions of relational containment, body-based regulation, collaborative safety, integration time, and meaningful adult choice, P003 had more access to presence, recoverability, and self-trust than his recent history would have predicted.

7.4 Adherence, Tolerability, and Adverse Events

Adherence was complete: P003 attended every scheduled session across the three phases and completed both assessment batteries. Tolerability was generally good, with the qualification that several protocols produced distress that was clinically informative rather than incidental.

Specific tolerability events were: a freeze response with subsequent panic and agitation during the first introductory protocol (June 7); irritation, jaw tension, and discomfort after an extended repeated sequence; transient increases in state anxiety after three Oregon sessions that opened protected material; and an episode of intense internal conflict and anger during a Labyrinth session (July 22) after which he asked not to be pushed further, and the session was stopped. In each instance the protocol was discontinued or changed at his request or the clinician's judgment, and each was followed by protected integration time.

No adverse events occurred in the sense of harm requiring intervention. Across the observation period there were no suicide attempts, no episodes of self-harm, no return to substance use, no eating-disorder relapse requiring a change in level of care, no psychiatric hospitalization, and — during the ten-day intensive — no episode of nighttime wandering or lost time. The increase in reported dissociative episodes during the June–July window, and the treating counselor's concern that the intervention was contributing to it, is recorded and discussed in Section 9 as an unresolved clinical disagreement rather than as a confirmed adverse effect.

7.5 Re-Entry and Post-Intensive Assessment (August 8)

At the August 8 assessment, nine days after his return, the clinician recorded that P003 presented as more present and more in his body, with a steadier sense of self. He described the change himself in functional terms: he was noticing "more choices for myself," and fewer choices made according to what he believed others expected. P003 did not endorse suicidal symptoms on the NPQ suicide domain. Given his history, this should be interpreted as a marked state-level improvement rather than evidence that risk was permanently resolved.

The clearest re-entry test had occurred the previous evening, when he unexpectedly encountered a former girlfriend at a recovery meeting. He experienced a significant anxiety spike, stayed, and challenged the urge to leave. He then made a series of capacity-based decisions across the weekend — declining a high-stimulation out-of-state recovery event he judged would overload him, planning rest and chores alongside limited social contact, and arranging not to be entirely alone. He continued to describe fatigue, uncertainty, and worry about what might "set him off," and he was explicit that he did not consider himself fixed. He was entering a high-demand period — graduate coursework, a clinical internship with vulnerable populations, a new job, graduation from his recovery program, and a new housemate in early recovery — and continued support was framed as flexible and available rather than as another obligation.

8. Patient Perspective

P003's own words are woven through this report because they carry the meaning of the case more precisely than a rating scale can. He described his first protocol experience as freezing — "I froze" — and the state that followed as panicked. He named what regulation cost him with unusual precision: "the other shoe," "no rest for the wicked, no peace for the good," and, most directly, that if he improves, "then I'm not sick and I'm not ill," followed by the question of what he would be if he no longer identified with being ill. He described a protocol that returned him to his body as leaving him with the sense that "this place is occupied," and Labyrinth as "very forced presentness ... a 30-minute battle between unconscious and consciousness ... which I think I need." He stated the central conflict of the work: "I need to be present. I don't want to be present." He described his relationship to his own body, after an eating-disorder diagnosis at 22, as being "at war," with the body "to be conquered" — and acknowledged that he would counsel anyone else toward self-compassion, "not for me." He described his defensive position as being "in a corner, and I'm pointing guns everywhere, one right at myself too." He described the specific validation he wanted as: that was horrendous, that would knock anybody down, you are going to be okay — "now let's go get coffee." By the waterfall he named what he found there as hope, and afterward wrote and read aloud a passage about re-entering hope, moving beyond

endurance, and no longer taking from himself. And in the final days he named the discovery underneath the whole process: he had not known "how much I attach my reality to other people's perceptions." His perspective is not that he was cured. It is that he was, in his own phrase, "destined for better," and that he now had more room to choose.

9. Discussion

The most significant observation in this case is what did not happen. P003 entered the process during an acute deterioration, with a treating provider recommending residential re-admission, chronic passive suicidality punctuated by acute episodes, escalating dissociative episodes with feared time loss, and three to four hours of sleep a night. Over the following two months he processed a substantial portion of his trauma history, including material he had never disclosed in full to anyone, and he did so without a suicidal crisis, without a return to substance use, without an eating-disorder relapse requiring intervention, without an inpatient admission, and — during the ten days of the intensive — without a single episode of the nighttime wandering or time loss that had precipitated the concern. The suicidality screen moved from severe to zero. That is the finding; the session-level anxiety numbers are secondary to it.

A second observation concerns the structure of the change. The session-level STAI-S data show two distinct effects that a single mean would obscure. Within-session anxiety reductions were real but modest and became smaller over time; the larger movement was in his pre-session baseline, which fell roughly thirteen points between the June phase and the Oregon intensive and reached its lowest recorded values in the intensive's final days. In other words, the sessions were not mainly producing temporary relief that decayed before the next one — the floor was moving. This distinction matters for how such work should be evaluated, and it points at the same measurement problem the clinician had already identified in correspondence during the intensive: the sessions that opened the most clinically important material were among the few that raised state anxiety within the session.

Third, the case illustrates that in this presentation regulation itself is a threat stimulus. P003 froze during the gentlest available protocol and articulated, repeatedly and lucidly, that improvement endangered an identity organized around illness. The therapeutic sequence that followed from this — familiarity before depth, repetition before novelty, agency before intensity — was not a matter of style. It was the treatment. The single most consistent observation across two months is that predictable, repeated exposure to the same few protocols did more for him than any individual powerful session, and that the powerful sessions became usable only after that foundation existed.

Fourth, the process functioned as a whole rather than as a device. Nature — particularly moving water — was where hope became embodied. Sleep was the variable that most reliably predicted his next-day capacity. Food, music, creative work, and ordinary public life were where the protocol effects either consolidated or did not. Independent time, contained but not surveilled, was where self-trust was actually tested. The protocols opened access; the surrounding field determined what his nervous system could do with it.

In this case, Shiftwave offered a repeatable, adjustable, body-based structure through which P003 could practice state-shifting, agency, and tolerance for regulated states. Its clearest contribution was the creation of repeated somatic openings that could be metabolized through

relationship, nature, food, sleep, music, safety, and ordinary choices. Protocol response generated clinically useful information: low-intensity calm produced freeze; familiar repetition supported tolerance; Sensorial supported embodiment; SS Meditate BioDrive supported settling; Labyrinth opened protected material; and self-selected intensity became a direct practice of agency. Shiftwave functioned as a structured nervous-system access point within a larger clinical field, helping P003 translate regulation into lived choice.

Fifth, several findings mark the limits of what changed. His PTSD symptom burden remains high, with negative beliefs about himself and the world nearly unmoved. DASS anxiety was unchanged. Fatigue remained moderate. Verbal memory and social acuity declined on testing. He remains vulnerable to paranoid and obsessive spirals under relational uncertainty, to his mother's distress at a nervous-system level, and to the belief that belonging must be earned through suffering. He said it himself on his return: he was reminded that he was "not fixed."

The mother–son link may be one of the clearest examples of why symptom change alone is insufficient in complex developmental trauma. P003’s response to his mother’s distress appeared to be organized at the level of autonomic state, not only belief or interpersonal conflict. Her anxiety or disappointment could rapidly become his body’s emergency: appetite disappeared, perception shifted, and the available choices narrowed toward compliance, collapse, or rebellion. The clinical task was to help him discover another possibility — staying connected without surrendering his own perception, receiving his mother’s concern without making it the final authority, and allowing his adult body to decide after regulation returned. This is especially important given the possible prenatal and early relational context: a mother grieving the death of an older child, carrying another child in a body already shaped by loss, and a child whose developing nervous system may have learned that maternal distress was inseparable from safety, responsibility, and belonging.

Although *threatened activation* and *connected activation* are clinician-generated terms rather than established research constructs, they may be useful in describing a distinction that existing symptom measures do not capture well. In this case, the clinical movement was not simply reduced arousal. It was increased capacity to remain embodied, relationally available, and choiceful while activation was present — and to distinguish activation organized around protection from activation connected to life.

Clinical Consideration: The Counselor's Concern

This case includes a genuine and unresolved clinical disagreement that should be recorded rather than smoothed over. During the June–July window, P003's addictions counselor observed an increase in reported dissociative episodes, concluded that the Shiftwave work might be making him worse and he did not support the Oregon intensive. P003 expressed concerns following conversations with his primary therapist that he wanted to rule out schizophrenia and dissociative identity disorder. His psychiatrist did not support inpatient admission. P003 was aware of the disagreement and chose to proceed.

Two readings of that period remain available. The counselor's reading is that a destabilizing intervention increased dissociative symptoms. The alternative, which the observations in this report support but cannot prove, is that increased contact with the body increased his awareness and reporting of dissociative states that were already occurring, during a period when his suicidality — the risk that had driven the residential recommendation — resolved. The

observation that both his reported dissociation and his safety improved simultaneously is difficult to accommodate within a simple deterioration model, and the absence of any dissociative or wandering episode during ten closely observed days speaks against it. But the disagreement was real, it was held by a provider with a longer relationship and a different vantage, and this report cannot settle it. The clinically useful conclusion is narrower: in a presentation of this complexity, an increase in symptom reporting during body-based work should be evaluated against functional and safety markers rather than treated on its own as evidence of harm.

Clinical Consideration: Continuity of Support After the Intensive

At the close of the intensive, both clinician and participant recognized that returning home — to a full schedule, a recovery community with its own demands, and a family system whose distress registers in his body — would be the real test of integration. He entered that period with local Shiftwave access available and while beginning graduate study and a clinical internship with vulnerable populations, a transition about which he had voiced sincere ethical concern. Based on the observations in this case, the treating clinician's current view is that continued access following an intensive of this kind may help a nervous system with this history keep practicing regulation once the intensively supported window has ended, and that the mother–son regulation work identified during the intensive is the most promising next target. Both should be understood as clinical hypotheses emerging from a single case rather than as established protocol.

Data Notes and Limitations

This is a single-case observational report without a control condition, blinding, or a fixed protocol, and it embeds the intervention within a relational and environmental container whose effects cannot be separated from the technology — nor from a prior therapeutic relationship, concurrent psychiatric medication, dietician-directed nutrition, an active recovery community, and, during the intensive, a change of environment that would be expected to have effects of its own.

Several specific limitations should be stated plainly. The self-report record is incomplete: only 20 of 33 recorded sessions carry paired pre/post scores, because repeated protocols within a single day were frequently captured with post-only forms, and the pre/post pairs are therefore not a random sample of sessions. Session 22 has no recorded time. The largest within-session reductions followed the highest pre-session scores, a pattern to which regression toward the mean is expected to contribute. The between-phase drop in pre-session baseline is the more robust observation, but it is confounded with the change of setting: the Oregon values were recorded in a quiet coastal environment, away from his ordinary stressors, and cannot be attributed to the protocols alone.

The neurocognitive comparison has three specific weaknesses. The battery repeats a fixed item set at both administrations, so improvement on repeated tasks — most visibly reasoning — may reflect familiarity rather than cognitive change. The pre-test was administered on a morning following severe chronic sleep deprivation, which plausibly depressed effortful domains and inflates the apparent size of subsequent gains. The pre-test session ran 89 minutes compared with 49 minutes at post-test, meaning fatigue within the testing session itself differed between administrations. This difference limits interpretation of the cognitive gains, because baseline performance may have been affected by greater fatigue and effort. At the same time, the shorter

post-test duration may itself be clinically meaningful: P003 moved through the assessment more efficiently in a state that appeared less effortful, more present, and more organized. Conversely, the declines in verbal memory and social acuity are reported as they stand; the alternative reading of the social-acuity change offered in Section 7.1 is a hypothesis, not a finding.

Medication changed during the observation window: quetiapine was added around the start of the July intensive and may have contributed to the improvements in sleep and to the post-intensive EEG and cognitive picture. This was a clinical decision made by his prescriber, not a component of the intervention, and its contribution cannot be separated from that of the Shiftwave work.

The EEG is descriptive single-channel monitoring, not a clinical quantitative EEG. Placement and eye condition are reconstructed from block structure and timing rather than from file labels; the second data channel is not usable for comparison; each placement contributes roughly one minute per condition; there is no normative comparison; and with two recordings no statistical inference is possible. The pre- and post-recordings were made at different times of day (late morning versus early morning) and in different states of sleep debt. The 2020 historical recording differs in equipment session, life circumstance, and medication, and is context only. Elevated frontal delta in the eyes-open condition at both sessions is consistent with ocular artifact and no interpretation rests on it.

Finally, the observation window is short — two months of active work and nine days of re-entry at the time of post-intensive assessment — and the durability of the observed changes is unknown. He was entering a period of substantial transition immediately afterward, and no standardized measures were collected during re-entry. As with the earlier P006 case, the available instruments captured anxiety, affect, symptoms, and cognition more directly than they captured what the clinical observations judged most important: whether this participant could remain embodied, connected, choiceful, and able to take the next appropriate action while still activated.

Future Directions

Future work suggested by this case includes: (1) standardized pre/post assessment administered at a rested baseline, with the pre-test not falling on a day of acute sleep deprivation; (2) longitudinal follow-up at three months, six months, and one year, with particular attention to whether the suicidality change persists through the transition period he was entering; (3) investigation of dyadic nervous-system work with a parent, using paired sessions, for participants whose regulation is closely coupled to a caregiver's distress; (4) systematic study of the phased structure itself — whether repeated familiar exposure over weeks before an intensive is necessary for this kind of presentation, or merely sufficient; (5) improved EEG acquisition — site and eye-condition markers written into the file, verified contact on all channels, matched time of day, and where possible simultaneous multi-channel recording in place of sequential single-electrode placements; and (6) brief repeated measures of sleep, distress, dissociation, and daily function during the weeks after an intensive, so that the integration period is documented rather than narrated.

Within that future work, dyadic nervous-system regulation with a parent may be especially important when an adult child’s regulation appears closely coupled to caregiver distress. This is consistent with attachment and developmental neuroscience literature describing early

regulation as a relational and biobehavioral process, shaped through parent–child synchrony, affect regulation, and the developing child's adaptation to caregiver cues (Feldman, 2012; Schore, 2001). In this case, the clinical question is not whether the parent is loving or harmful, but whether both nervous systems can learn a new pattern: care without rescue, concern without collapse, support without control, and connection without the adult child surrendering self-trust.

A seventh direction is measurement development, and this case sharpens the argument the earlier P006 case raised. The most clinically meaningful observations here — a suicidality screen falling to zero, an absence of wandering and time loss, a feared appointment completed alone, a return to driving, a trigger encountered without flight, and a consequential decision made from a grounded rather than a compliant or rebellious state — were captured by no instrument in the battery. Existing measures of dissociation, interoception, emotion regulation, shame, self-compassion, urge intensity, and behavioral functioning should be evaluated for their ability to capture this construct; if none suffices, a brief adjunctive tracker assessing presence in the body, dissociation, shame activation, felt choice, connection to safe others, urge intensity, ability to take the next right action, and the time required for protocol effects to settle may be warranted. Such a tracker would not replace validated measures, but would document the changes that in this case preceded — and mattered more than — global symptom reduction.

Although *threatened activation* and *connected activation* are clinician-generated descriptive terms rather than established research constructs, they may be useful in describing a distinction that existing symptom measures do not capture well. In this case, the clinical movement was not simply reduced arousal. It was increased capacity to remain embodied, relationally available, and choiceful while activation was present — and to begin distinguishing *threatened activation*, in which intensity organized around protection, shame, collapse, compulsion, dissociation fear, or externalized certainty, from *connected activation*, in which intensity remained linked to embodiment, relationship, creativity, grief, hope, agency, and adult choice.

In summary, this case suggests that a phased, trauma-informed Shiftwave-assisted process, embedded in relational containment, protected integration time, and a supportive environment, may support meaningful stabilization in a young adult with severe developmental trauma and a complex multi-domain presentation — expressed as resolved suicidality, improved sleep, increased tolerance for regulated states, growing self-trust, and restored functional capacity, rather than as the elimination of symptoms.

10. Ethical Considerations and Informed Consent

This report describes de-identified clinical material from an adult participant. The case-report process was discussed with the participant at the August 8, 2026 assessment, including de-identification, the review and interpretation process, and his opportunity to review the report for factual errors and for content he did not wish included.

Audio-recorded clinical process notes were used to support accurate documentation and were reviewed as part of the case-report preparation; identifying details from those materials are not included in this report.

All directly identifying information has been removed, the participant is referred to only by an assigned identifier, and identifiers embedded in source files were removed before those files were referenced. The work was conducted as clinical care within an established therapeutic relationship, with coordination among his psychiatrist, primary therapist, addictions counselor, dietician, and family throughout. Given the participant's risk history, safety planning, collateral contact, and provider coordination were maintained as continuous components of care. This report is prepared in accordance with the CARE Guidelines for case report publication.

Competing Interests: Shiftwave is a proprietary technology developed and manufactured by Shiftwave, Inc. Personnel employed by Shiftwave, Inc. contributed to EEG signal processing, quantitative analysis, preparation of EEG-related tables/figures, and technical support during manuscript preparation. The treating clinician is not employed by Shiftwave, Inc., has no equity ownership or paid consulting agreement with Shiftwave, Inc., and made all clinical, safety, pacing, and treatment decisions independently. Shiftwave, Inc. did not determine the clinical interpretation of the case.

Author Contributions: The treating clinician conceptualized the clinical process and case report; conducted the June exploratory intensive, repeated outpatient sessions, and ten-day shared-residence intensive; made all clinical, safety, pacing, and treatment decisions; coordinated care with the participant’s existing treatment team and family as clinically indicated; collected and maintained the clinical notes, session observations, self-report measures, and assessment data; interpreted the clinical meaning of the findings; directed, reviewed, revised, and verified the AI-assisted drafting of the clinical narrative; and approved the final manuscript. The treating clinician accepts responsibility for the accuracy, integrity, and clinical interpretation of the case report.

Use of AI-Assisted Technology: Generative AI-assisted technology was used to support organization, synthesis, drafting, and revision of de-identified clinical material during preparation of this case report. All AI-assisted content was reviewed, revised, fact-checked against source materials, and approved by the treating clinician, who accepts responsibility for the final manuscript. AI-assisted technology did not make clinical decisions, determine clinical interpretation, or serve as an author.

Data Availability: Deidentified data is available upon request.

11. Appendix: EEG Data Sources and Analysis Methods

11.1 Source Files

Four EEGer recordings were analyzed: the June 7, 2026 pre-intensive mini-map, a repeat mini-map recorded at the end of the June 14, 2026 four-hour intensive, the August 8, 2026 post-intensive recording, and a July 30, 2020 recording retained from the participant's earlier neurofeedback episode. Each 2026 mini-map is stored as two EDF exports covering the midline and central placements respectively; the August 8 session is additionally available as a raw-sample CSV export containing a Time column, two EEG channels in microvolts sampled at approximately 256 Hz, the recording software's live band and threshold columns, and a marker column. Identifiers embedded in the original filenames were removed before analysis and are not reproduced here.

11.2 Recording Structure

The mini-map protocol steps a single recording electrode through six placements in a fixed order — Fz-A1, Cz-A1, Pz-A1, C3-A1, C4-A2, C3-C4 — capturing approximately 60 seconds eyes-open followed by 60 seconds eyes-closed at each. In the August 8 CSV export, block boundaries are explicit: twelve FBACK/PAUSE marker pairs delimit the recording periods, and their durations confirm the protocol structure (six blocks of approximately 90 seconds and six of approximately 60 seconds). In the EDF exports, block boundaries were recovered from the recording software's threshold-trace channels, which are active during recording and silent during the pauses when the electrode is repositioned; where a pause was too brief to register, the resulting double-length segment was split at its midpoint, which affected one placement pair in the June 14 recording. Eye condition was assigned within each placement segment by locating the boundary that maximized the alpha amplitude contrast between the two adjacent windows and assigning the higher-alpha window to the eyes-closed condition. This procedure recovered the expected eyes-open-first ordering at 23 of the 24 placement-sessions analyzed. Only recording blocks were analyzed; the repositioning pauses were excluded.

A channel-identification check was necessary before analysis. The EDF exports contain signals labelled "CHA" and "CHB" alongside an unlabelled first signal. Correlation against the August 8 raw CSV, where the recording channel is unambiguous, established that the first signal in the EDF is the recording channel ($r = 1.000$ against CSV ChanA, matched standard deviation) while the signal labelled "CHA" is a processed software trace ($r = 0.27$). All analyses use the first signal. The second data channel was not interpretable and is excluded.

11.3 Preprocessing and Analysis

All values were recomputed from the raw channel signal; the software's live band columns were not used. For each recording, and separately for each placement × eye-condition block: (1) the leading all-zero priming sample was dropped; (2) the block was band-pass filtered from 1 to 40 Hz with a fourth-order zero-phase Butterworth filter and a 60 Hz notch; (3) the block was divided into one-second non-overlapping epochs; (4) epochs were rejected if the raw signal reached the device rails (absolute value at or above 245 μV) or exceeded 400 μV peak-to-peak, to remove movement and blink artifact; (5) power spectral density was estimated by Welch's method (2-second Hann window, 50% overlap) averaged over surviving epochs; and (6) band power was integrated over each band, with band amplitude reported as the square root of band power in microvolts. Bands were delta 1–4, theta 4–8, alpha 8–12, low beta 12–18, and high beta 22–36 Hz, matching the earlier P001 and P006 reports. Derived ratios were computed from the band amplitudes. Because each block contributes roughly 60 seconds of data, per-placement values rest on far less signal than a whole-session average would, and small differences should not be over-read. The analysis was performed in Python (NumPy, SciPy); the script is retained with the case materials.

11.4 Epoch Retention

Artifact rejection removed no epochs at any placement in the August 8 recording (894 of 894 one-second epochs retained). In the June 7 recording, 97.1% of epochs were retained overall (701 of 722), with per-placement retention ranging from 94% to 100% and losses distributed across placements. The June 14 recording retained 97.4% (686 of 704) and the July 2020

recording 99.6% (685 of 688). No part of the pre/post comparison rests on one recording being cleaner than the other.

11.5 Additional Session Values

Table A1. Eyes-closed alpha amplitude (μV) by placement, all four recordings

Placement	7/30/2020	6/7/2026	6/14/2026	8/8/2026
Fz-A1	5.27	3.60	3.48	3.64
Cz-A1	5.38	4.41	3.94	4.02
Pz-A1	5.19	4.02	3.61	5.09
C3-A1	4.70	3.73	4.49	3.51
C4-A2	4.71	3.78	4.17	3.71
C3-C4	2.03	2.36	3.74	1.76

Table A2. Eyes-closed theta/alpha ratio by placement, all four recordings

Placement	7/30/2020	6/7/2026	6/14/2026	8/8/2026
Fz-A1	0.73	1.15	1.51	0.87
Cz-A1	0.77	0.73	0.79	0.68
Pz-A1	0.71	0.66	0.68	0.49
C3-A1	0.71	0.78	1.08	0.78
C4-A2	0.75	0.82	0.62	0.66
C3-C4	0.91	0.61	0.48	0.95

The June 14 recording was made at the end of a four-hour intensive and shows the highest frontal theta/alpha ratio of the four sessions, consistent with end-of-session fatigue. It is included for completeness rather than as a pre/post comparison point.

12. References

1. Spielberger CD, Gorsuch RL, Lushene R, Vagg PR, Jacobs GA. *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press; 1983. (STAI-S state anxiety measure.)
2. Watson D, Clark LA, Tellegen A. Development and validation of brief measures of positive and negative affect: the PANAS scales. *J Pers Soc Psychol.* 1988;54(6):1063–1070. (PANAS affect measure.)
3. Gualtieri CT, Johnson LG. Reliability and validity of a computerized neurocognitive test battery, CNS Vital Signs. *Arch Clin Neuropsychol.* 2006;21(7):623–643. (CNSVS battery.)
4. Gualtieri CT. An Internet-based symptom questionnaire that is reliable, valid, and available to psychiatrists, neurologists, and psychologists. *MedGenMed.* 2007;9(4):3. (Neuropsych Questionnaire, NPQ.)

5. Blevins CA, Weathers FW, Davis MT, Witte TK, Domino JL. The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5): development and initial psychometric evaluation. *J Trauma Stress.* 2015;28(6):489–498. (PCL-5.)
6. Bovin MJ, Marx BP, Weathers FW, Gallagher MW, Rodriguez P, Schnurr PP, Keane TM. Psychometric properties of the PTSD Checklist for Diagnostic and Statistical Manual of Mental Disorders–Fifth Edition (PCL-5) in veterans. *Psychol Assess.* 2016;28(11):1379–1391. (PCL-5 diagnostic cutoff range.)
7. Marx BP, Lee DJ, Norman SB, Bovin MJ, Sloan DM, Weathers FW, Keane TM, Schnurr PP. Reliable and clinically significant change in the Clinician-Administered PTSD Scale for DSM-5 and PTSD Checklist for DSM-5 among male veterans. *Psychol Assess.* 2022;34(2):197–203. (PCL-5 change thresholds.)
8. Lovibond SH, Lovibond PF. *Manual for the Depression Anxiety Stress Scales*. 2nd ed. Sydney: Psychology Foundation of Australia; 1995. (DASS-21.)
9. Spitzer RL, Kroenke K, Williams JBW, Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med.* 2006;166(10):1092–1097. (GAD-7.)
10. Johns MW. A new method for measuring daytime sleepiness: the Epworth Sleepiness Scale. *Sleep.* 1991;14(6):540–545. (Epworth Sleepiness Scale.)
11. Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption–II. *Addiction.* 1993;88(6):791–804. (AUDIT.)
12. Skinner HA. The Drug Abuse Screening Test. *Addict Behav.* 1982;7(4):363–371. (DAST.)
13. van der Kolk BA. *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma*. New York: Viking; 2014. (Somatic sequelae of complex trauma.)
14. Porges SW. *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-Regulation*. New York: W. W. Norton; 2011. (Autonomic state and flexibility framing.)
15. Ogden P, Minton K, Pain C. *Trauma and the Body: A Sensorimotor Approach to Psychotherapy*. New York: W. W. Norton; 2006. (Body-based intervention for trauma.)
16. Payne P, Levine PA, Crane-Godreau MA. Somatic experiencing: using interoception and proprioception as core elements of trauma therapy. *Front Psychol.* 2015;6:93. (Interoceptive/somatic trauma intervention.)
17. Lanius RA, Vermetten E, Loewenstein RJ, Brand B, Schmahl C, Bremner JD, Spiegel D. Emotion modulation in PTSD: clinical and neurobiological evidence for a dissociative subtype. *Am J Psychiatry.* 2010;167(6):640–647. (Dissociation as emotional overmodulation.)
18. Santamaria J, Chiappa KH. The EEG of drowsiness in normal adults. *J Clin Neurophysiol.* 1987;4(4):327–382. (State-dependent EEG confounds.)
19. Ogilvie RD. The process of falling asleep. *Sleep Med Rev.* 2001;5(3):247–270. (State-dependent EEG confounds.)
20. Van den Bergh BRH, van den Heuvel MI, Lahti M, Braeken M, de Rooij SR, Entringer S, et al. Prenatal developmental origins of behavior and mental health: The influence of maternal stress in pregnancy. *Neurosci Biobehav Rev.* 2020;117:26–64. doi:10.1016/j.neubiorev.2017.07.003.
21. Feldman R. Parent–infant synchrony: A biobehavioral model of mutual influences in the formation of affiliative bonds. *Monographs of the Society for Research in Child Development.* 2012;77(2):42–51. doi:10.1111/j.1540-5834.2011.00660.x.
22. Schore AN. Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal.* 2001;22(1–2):7–66. doi:10.1002/1097-0355(200101/04)22:1<7::AID-IMHJ2>3.0.CO;2-N.

Prepared in accordance with the CARE Guidelines for case report publication. De-identified clinical material.