

Factors Contributing to Sustainable Increases of Composite IQ, Fluid IQ, Crystallized IQ, Emotional Intelligence (EQ) and Creativity Through Biocybernaut's Integrative Neuro-Transformation Process

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Abstract

This study evaluates the impact of Biocybernaut's 7-day Alpha One Neurofeedback Training on Composite IQ, Fluid IQ, and Crystallized IQ (Intelligence Quotient). Utilizing patented neurofeedback techniques and patented training methods to enhance Alpha brain wave activity (8-13 Hz), combined with a 14-step Forgiveness protocol and Mood Scale-guided coaching, this training yielded significant and important and sustained cognitive and emotional enhancements. The training group (n = 24) achieved an average Composite IQ increase of +11.7 points, with Fluid IQ rising by +10.9 points and Crystallized IQ by +10.9 points. In addition, this training has also produced large and useful EQ improvements (+15.8 points). Maximum individual gains in IQ reached +19 points for Composite IQ, +23 points for Fluid IQ, and +39 points for Crystallized IQ [34,51]. Hardt [29] showed that these IQ gains were stable for at least a year and were independent of age, baseline IQ, or time between pre- and post-tests and empower lifelong learning and cognitive excellence. The control group (n = 24) showed no significant IQ changes. These IQ gains in the training group were stable for at least a year and were independent of age or baseline IQ. The results align with neuroscience research by other neuroscientists linking increased Alpha power, increased Alpha coherence, and Theta activity to higher intelligence, including: Thatcher, *et al.* [82], Jausovec and Jausovec [58], Klimesch [66], Klimesch, *et al.* [67]. It was also shown that the high IQ people are more likely than normals to be able to suppress their higher Alpha activity when concentrating on a task. In addition, there was a significant correlation between Alpha Peak Frequency (APF) and higher IQ, with IQs >130 showing faster APFs than normals with IQs 90-110. These results suggest that well informed and individually tailored and targeted neurofeedback, combined with appropriate deep emotional processing, can produce large and lasting benefits with wide applications in education, personal and professional development, science, engineering, technology, including AI developments, mental health, and societal transformation. The Biocybernaut Integrative Neuro Transformation program includes specific types of training targeted to increase Alpha Amplitude, and to increase Alpha HemiCoherence, and to Suppress Alpha, all on demand. Intriguingly, daily EEG Polygraph review sessions conducted by the Biocybernaut Trainer with the trainees showing them their raw and filtered EEG recordings, that are made for the benefit of, and to provide feedback for, the trainees, also show recurrent transient increases in Alpha frequencies, sometimes even within the same Alpha Spindles. Thus, all four of the known correlates of HIGHER IQ are specifically measured and trained by the Biocybernaut Integrative Neuro Transformation Brain Wave Feedback Training Program. A novel hypothesis introduced here suggests that learned increases in cerebral blood flow, evidenced by the "Alpha Tan" phenomenon and supported by Flügel's findings on vasodilation in hypoxic patients [4] and Nakamatsu's breath-holding technique [74], contribute to these large and sustainable cognitive gains. Early research on Alpha feedback by Hardt [10] and on the role of Alpha EEG in creativity increases [51,71] further support these outcomes. These non-fading IQ gains across nine measures provide a permanent foundation for intellectual transformation. The program's holistic approach, integrating EEG optimization, emotional healing, and vascular enhancement offers transformative applications for education, professional development, and societal evolution, potentially fostering a collective superconsciousness [22].

Keywords: IQ; Fluid IQ; Crystallized IQ; Emotional Intelligence (EQ); Biocybernaut's Integrative Neuro-Transformation Process

Overview

This paper undertakes a pioneering synthesis rare in neuroscience research, aiming to do 7 things: (1) Describe, in detail, the significant IQ boosts for Composite IQ, Fluid IQ and Crystallized IQ achieved through the Biocybernaut Integrative Neuro-Transformation program that includes the Alpha One Single Brain Training program and then (2) To elucidate the mechanisms behind why these results have been achieved by referencing. (3) Details of the specific training methods of the Integrative Neuro-Transformation Brain Training Program that was employed including patented forms of neurofeedback [15,17,40,41,43,56], computerized measurement of both conscious and unconscious emotions, computerized measurement of 128 brain activity parameters every 15 seconds, correlation and interpretation of changes in the EEG activity and changes in the conscious and unconscious emotional state of the trainees and depth interviews and emotional processing with Biocybernaut Certified Trainers and (4) Cite research of other neuroscientists that identify the specific EEG parameters that are known to be related to High IQ (e.g., Alpha power, Alpha coherence, Theta activity) linked to high IQ and creativity [58,66,71,82]; and then (5) Demonstrate that these specific, known-to-be-important EEG parameters were exactly the EEG training parameters that were precisely targeted in the Biocybernaut EEG Alpha training program, thereby helping to explain and to understand the achievement of the unusually large and sustainable IQ boosting results that are observed and reported. When the parameters that have been shown to be associated with High IQ are specifically and effectively trained with the right technology and methods, it is natural to see big and sustainable increases in IQ, such as are reported here. Non-diminishing IQ boosts across all measures ensure a robust, enduring platform for cognitive growth. The Biocybernaut program's stable IQ gains herald a new era of sustained intellectual empowerment and (6) A novel hypothesis is here posited that learned increases in cerebral blood flow (a likely correlate of EEG Alpha increases), akin to the mammalian diving reflex, contribute to these gains. Drawing on Japanese inventor Yoshiro Nakamatsu's breath-holding technique [74], together with Flügel's findings on vasodilation in hypoxic patients Flügel' findings [4], and Biocybernaut Institute's observations of an "Alpha Tan" in some Alpha trainees, we propose that enhanced cerebral blood flow, alongside EEG Alpha optimization and deep emotional healing, drives and sustains cognitive enhancement, and finally (7) To hint at Dr. Hardt's mystical world vision for an Enduring Golden Age for All Humanity by citing Hardt's early work [10] and visionary 1994 paper [23] that foresaw the vast and transformative cultural implications of such brain training, in which he foresaw and predicted self-regulating individuals and a collective superconsciousness (Shared Feedback™) reshaping both individuals and societies, including even beyond what we consider possible. Here is the abstract of that May, 1994 paper: Individual and cultural implications of brain activity mapping and training by James V. Hardt, Ph.D. Feedback changes any system to which it is added. From engineering we know that adding feedback to a mechanical or electronic system endows the system with new and often surprising properties. When American culture received the first televised feedback from the cultural activity known as war [Vietnam, 1970s], the culture was rapidly changed by that feedback in ways that surprised and displeased the government. When individuals receive Brain Activity Feedback, they can change in ways which give them greater objectivity, increased self-honesty, greater self-responsibility, more choices, and a degree of freedom from cultural conditioning, all of which changes can have surprising consequences, and beneficial consequences. With appropriate Brain Activity Training, individuals can improve their skills and their abilities, and they can learn both how to have new desirable experiences [happiness, vigor, contentment] and how to stop having undesirable old experiences [like anger, anxiety, depression, paranoia]. Indeed, people can learn how to change the core dimensions of their personality, by changing their brain activity, just as a computer's basic characteristics can be changed by loading a new operating system. By changing their brain activity, people can change their behavioral characteristics and they can learn how to regulate almost any process in their minds and their bodies. An individual with such a range of capabilities is far outside the range of the cultural norms. The appearance of such individuals, even in small numbers, will have an enormous impact on established cultural values and cultural institutions, and will rapidly redefine our cultural beliefs about what is possible and desirable, and what is normal. A culture of consciously self-regulating individuals will bear little resemblance to any culture as we know it, and it is beyond our current abilities to fully imagine. We know from physics that harmonic oscillators brought into resonance will exhibit "emergent properties", which are new properties which cannot be observed or inferred by study of the individual oscillators. As the oscillations in different regions of a person's brain are aided by feedback in coming into resonance, there will be emergent properties of mind. As brain scientists who are using this powerful

new tool of brain activity feedback, we must prepare to accept as real, to carefully study, and to communicate to our culture about these emergent properties, these paranormal abilities which we will be assisting our trainees to develop. And beyond the individual paranormal mind skills, there will also be new collective mind abilities. Brain activity feedback can become the nervous system which connects together the human brains, which are the neurons of the Global Brain. A superconscious awareness emerging out of a neural net composed of suitably interconnected human brains will constitute a new stage of human evolution. We can speculate about how many people need to be connected together, and in what types of connections, to create a higher order noetic entity. Our research will discover the enabling details, such as the minimum number of brains required, maximum allowable transmission delay times in the interconnection network, required bandwidth of the interconnections, etc. Once we can reliably create higher order collective noetic entities (an egregore), we can attempt to measure the effective IQ of the collective superconsciousness thus we have thus formed, and we can begin to wonder what intentions our new creations will have. All sentient beings have intentions, including continuity of consciousness. How will the collective conscious awareness “feel” about its “neurons” disconnecting from the network and going away to separate homes at the end of the day? Would the collective awareness view the departure of its “neurons” in the same way we view a brain tumor? Is this individual action by the “neurons” to the detriment of the “brain” and the consciousness arising in the “brain” a comparable example at our current level of integration? By considering a few detailed examples of the transformations possible with brain activity feedback, we will begin to see the likelihood, of changes so rapid and so vast as to quickly produce alternative futures beyond our present abilities of imagination and comprehension. We shall also see the likelihood and the means, through use of this amazing brain technology, for a correspondingly rapid increase in our abilities of imagination and comprehension.

Brain waves rule™

Prologue

The Biocybernaut Institute's Integrative Neuro-Transformation program heralds a new era in neuroscience, uniquely combining patented neurofeedback technology and patented training methods with individualized detection and processing of unconscious emotions to elevate and enhance cognitive and emotional capacities. This program is triply unique among programs that include some form of neurofeedback training as a part of their processes.

First: The first unique aspect is that both the EEG feedback technology and the training methodologies have been patented, demonstrating the leadership and innovation of Biocybernaut Institute and the EEG feedback technology and training methodologies have been applied in tens of thousands of EEG Feedback training sessions. Patents include: [15,17,40,41,43,56], ensuring that people who experience this training have an unique, effective, research-guided and optimized approach that is unavailable anywhere else.

Second: The second unique aspect is that the neurofeedback is individually personalized and guided and by reference to deep results from computerized Mood Scales that are administered 2-3 times daily, to uncover, to bring up into consciousness, and then to address through very personalized deep Forgiveness work and coaching any unconscious emotional issues. One of the Mood Scales, the Multiple Affect Adjective Check List actually directly measures both conscious and unconscious forms of Anxiety, Depression and Hostility. The computerized Mood Scales are administered while the people (the EEG trainees) are in their neurofeedback chambers and their brain waves are being recorded. Dr. Hardt has adapted and computerized three published Mood Scale tests. These mood scales, adapted from established instruments like the Profile of Mood States (POMS), Multiple Affect Adjective Check List (MAACL), and Clyde Mood Scale (CMS), were modified, validated and then computerized by Dr. Hardt, who wrote a computer program that both administers and scores these three Mood Scales while trainees are having their EEGs recorded. Then the computer performs a proprietary analysis that provides an estimation of the accuracy of each answer to each of the words on the Mood Scales. If there is at least a 68% chance that an answer to a specific mood word is inaccurate, then the computer assigns a 1σ (one Sigma or one Standard Deviation) to that word. If there is at least a 95% chance that an answer is wrong, the computer assigns a 2σ . A 99.7% chance that an answer is wrong yields a 3σ , and so on. A proprietary algorithm assigns sigma values (1σ up to $6\sigma+$) to detect and then to report to the Coach/Trainer any “inaccuracies” in the

trainee's emotional self-reports. For example, if a trainee denies feeling "Angry" and reports "0" anger on a scale from 0-4, but receives a 3σ score (which is a 99.7% chance of inaccuracy in denying anger), a Certified Biocybernaut Trainer then conducts an in-depth interview to explore underlying emotions, often revealing traumas and perpetrators, that are then processed through the 14-Step Biocybernaut Forgiveness protocol.

For example, using the 3σ score on "Angry", the Trainer will gently ask, "You denied being angry, but the computer gave you a 3σ . Is there anything that you might be angry about, maybe even something that is not currently in your memory or awareness?" Then perhaps a tear rolls out of one of the trainee's eyes and their lips tremble a little. Then the Trainer gently asks, "What are you remembering?" Then out tumbles a story of some long-ago trauma or abuse. And of course, there is a perpetrator, who's name then goes onto the Forgiveness List that the trainee is accumulating, for later use in their Alpha feedback session that day and during the 7 days of the Biocybernaut Alpha training. Each person's work in the neurofeedback chamber is thus highly personalized and directed exactly to where they need to do deep work.

As an analogy, if you were given a Pirate treasure map showing a huge treasure chest buried on a 7-mile-long sandy beach with 100 yards from the ocean to the sand dunes, you could spend years digging unsuccessfully for that treasure. But if you employ a metal detector, you will find the treasure quickly. Maybe you will turn up a few rusty anchors along the way, but you will surely find your treasure faster and with less work given that you have a technology (metal detector) telling you where to dig. The Biocybernaut Institute Mood Scale program is a similar "detection technology" that tells you where to dig in your unconscious to find and then to both heal the deep emotional traumas and to recover the positive emotional treasures that are buried there. The famous science fiction author, Arthur C. Clark said, "Any sufficiently advanced technology is indistinguishable from magic".

This 14-Step Biocybernaut Forgiveness protocol, empirically refined by Dr. Hardt, through tens of thousands of trainee interviews since its inception in 1985, facilitates deep emotional healing. The Sigma detector also very usefully identifies positive emotions of which the trainee is unaware, like "devoted", "loving" and "playful". There is then effective coaching in a process of uploading and installing these unconscious positive emotions into the trainee's day-to-day conscious awareness, thereby sustainably increasing well-being, happiness and joy.

Since Dr. Hardt first introduced Forgiveness instructions into the Biocybernaut Integrative Neuro-Transformation program in 1985, he has distilled and synthesised of all the best options that were tried out by trainees in those tens of thousands of training sessions. There have been instances of Christian Fundamentalists in this training saying, "Oh, I'm so glad that you have a Faith-based training program". However, the origin of the Biocybernaut 14-Step Forgiveness Method was not Faith, but empirical, verifiable, repeatable, beneficial results. And it is common for people to profoundly increase their spiritual awareness and devotion through this training, including the Forgiveness work. This highly optimized Biocybernaut Forgiveness Method is hugely helpful in personalizing and guiding the work done in the neurofeedback chambers by the Biocybernaut trainees, thus contributing to the extraordinary results of Biocybernaut's Integrative Neuro Transformation training that include increases of Composite IQ +11.7 points, Crystallized IQ +10.9 points, Fluid IQ +10.9 points, EQ +15.8 points (Emotional Intelligence) and the +50% boost in Creativity.

Third: The third unique aspect has to do with a curious phenomenon observed in some Biocybernaut Alpha trainees who have sudden, large breakthroughs on a given day of the training that results in them emerging from their neurofeedback chamber sporting a bright facial flush which we all an "Alpha Tan". Sometimes they look like they just returned from 2 weeks in Barbados. The "Alpha Tan" phenomenon - brightly flushed facial features during big Alpha breakthroughs-suggests a learned increase in cerebral blood flow, akin to the mammalian diving reflex [75,79]. When a mammal is thrown into the water, there is an immediate reduction of peripheral blood flow and an increase in cortical blood flow. The survival value of this diving reflex is obvious. If the mammal loses consciousness from oxygen deprivation

under water, death is likely soon to follow. Sudden increases of blood to the head can flood both the brain with more blood and can also flood the face, ears, chin, forehead and neck with blood, producing a bright flush, an "Alpha Tan". Japanese inventor Yoshiro Nakamatsu attributes his creativity (over 3,200 patents) to breath-holding underwater, enhancing cerebral blood flow [74]. In addition, Flügel's 1967 study [4] showed that powerful vasodilation restored Alpha activity, psychic drive, and intellectual function in hypoxic patients. Dr. Hardt's childhood IQ boosts from long-distance underwater swimming and early intensive 3-4 hours sessions of Alpha feedback training, starting in Dr. Joe Kamiya's lab in the Summer of 1967 [10,20] support this link. These insights suggest that another way that Biocybernaut's Alpha training enhances IQ is by optimizing cerebral blood flow, complementing EEG Alpha self-regulation and emotional interventions. These time-resilient IQ increases may unlock a permanent reservoir of cognitive capacity for all ages. These steadfast IQ boosts, consistent across months, drive transformative outcomes in education and beyond. Hardt's 1974 vision [10] of self-regulating individuals reshaping culture through emergent properties of mind, including emergent cognitive properties underscores the program's transformative potential, promising a new stage of human evolution.

The program's results-Composite IQ +11.7 points, Crystallized IQ +10.9 points, Fluid IQ +10.9 points, EQ +15.8 points, and a +50% boost in creativity-reflect this multifaceted approach, offering a revolutionary path to cognitive and cultural transformation.

Details of these research results are presented below: This current research paper undertakes a synthesis of the Alpha Training and IQ boosting study results (to be described in detail below) and the larger Neuroscience knowledge base detailing the EEG correlates of Higher IQ. This current paper also explores the mechanisms behind these current IQ boosting results of the Biocybernaut Institute's Alpha Brain Wave Feedback Training Program, and in the process, linking the beneficial IQ results to EEG parameters that are known to be associated with higher IQs. In addition, this synthesis describes the Biocybernaut Integrative Neuro-Transformation program's ability to address emotional barriers, offering transformative implications for personal, educational, professional, relationships and societal growth.

Suffice it to say here in this Prologue, that central to production of these positive and sustained results are TWO simultaneous processes of the Biocybernaut Integrative Neuro-Transformation training.

One, Number one of these two important processes is the elimination of unconscious negative emotions and remediation of traumas through deep Forgiveness Work. Transformation is always better than "treatment". When someone who, before their Biocybernaut Integrative Neuro-Transformation training, is at the 98th or 99th percentile of Anxiety, Depression, Paranoia, Schizophrenia on the MMPI and then 7 days later they are in the middle of the normal zone of the MMPI scales, this more than treatment. It is profound Transformation. In the same daily depth coaching process using the Sigmas from the computerized Mood Scales there is also the identification of Positive Unconscious emotions. Such buried Positive Emotions do the person no good when they remain buried in the unconscious. But the Biocybernaut Integrative Neuro-Transformation process does three important and very useful things with these unconscious Positive Emotions: (1) Identifies them for the trainee, (2) Brings them up into their conscious awareness (3) Installs them permanently and beneficially in the conscious awareness in a way that gives the trainee continuous voluntary access to their formerly unconscious Positive emotions. When Drunvalo Melchizidek, a world-famous spiritual teacher, did the Biocybernaut Alpha One Single training in May, 2007, he had over 550 teachers around the world delivering his 5-day workshops (like "Awakening the Illuminated Heart"). He was profoundly moved by his Alpha One training and he declared: "95% of all the people around the world who do my workshops, do NOT get the fullness of my teachings. And the reason is always the same: Emotional Traumas. And I've never found anything as powerful as the Biocybernaut Integrative Neuro-Transformation Alpha training at getting rid of Emotional Traumas".

The role of eliminating Emotional traumas in boosting IQ, EQ and Creativity will be further explored later in this paper as the detailed IQ results are described.

And, in addition, a later follow-up paper will explore more deeply into the details of the psychodynamics of conscious and unconscious processes that contribute to enhancing or that contribute to suppressing the expression of IQ. Key authors in this field will be cited to develop greater understanding of how the expression of IQ is inhibited or enhanced.

In this follow-up paper, the key references will be organized into an Annotated Bibliography and an Evidence Matrix that will thematicize connections from psychodynamic processes (e.g. unconscious conflict resolution, affect regulation) to enhanced cognitive expression (IQ, EQ, Creativity). These will then be shown to link back to Biocybernaut Alpha Feedback outcomes, such as effective forgiveness, reduced anxiety/depression and increased vigor, which may facilitate transformation by modulating unconscious barriers to enhanced mind potentials. Examples of authors whose work will be cited in this later follow-up paper include: Freud, S. [5,6]; Rank, O. [77,78]; Klein, M. A. [64,65]; Jung, C. G. [61]; Lacan, J. [68,69]; Jensen, A. R. [59,60]; Sternberg, R. J. [80,81]; Iurato, G. [57]; Kirsch, L. G. [63].

Two, Number two of these two important processes is the specific and individualized training that this Biocybernaut program provides in attaining control and mastery of 5 EEG parameters that other neuroscience researchers have shown to be significant correlates of Higher IQ. These include: (1) higher Alpha Power, (2) Higher Alpha Coherence, (3) Greater ability to Suppress Alpha at will during intense cognitive processing or visualization, (4) Increases of Frontal Theta, and (5) Ability to speed up the frequency of the EEG's Alpha Peak Frequency (APF).

Summary of research by others into the relationships between EEG and IQ:

1. Thatcher, North, and Biver [82], in a paper entitled EEG and intelligence: Relations between EEG coherence, EEG phase delay and power report that higher IQ is associated with increased coherence in Alpha (8-13 Hz). They describe that higher Alpha power is linked to higher IQ scores, especially in Frontal and Parietal regions. This study used the Wechsler Intelligence Scale and is widely cited for establishing EEG coherence as a biomarker of Intelligence.
2. Jausovec and Jausovec [58], in a paper entitled EEG activity during the performance of complex mental problems studied high IQ individuals (IQ > 130) using Raven's Progressive Matrices and compared them to average IQ peers (IQ 90-110) during the performance of complex verbal, numerical, and visually challenging spatial tasks. Such tasks are known to suppress Alpha activity (this Alpha suppression is known as desynchronization). High IQ individuals had greater Alpha desynchronization (Alpha suppression) than normals during performance of challenging tasks. High-IQ individuals (IQ > 130) showed greater Alpha suppression and increased Theta power during task performance compared to average-IQ peers (IQ 90-110). These differences were most pronounced in Frontal and Parietal regions, suggesting enhanced neural efficiency and working memory engagement in high-IQ individuals. The findings indicate that EEG spectral measures can differentiate cognitive processing strategies associated with intelligence, particularly under high cognitive load. Intriguingly, the Alpha training at Biocybernaut always includes training in Alpha Suppression, along with Alpha Enhancement and also demonstrably increases Frontal Theta at F_3 and F_4 , and the Theta increases involve both Slow Theta and Fast Theta [19].
3. Anokhin, Lutzenberger and Birbaumer [1], in a paper entitled Spatiotemporal organization of brain dynamics and intelligence: An EEG study in adolescents used the Wechsler Intelligence Scale for Children (WISC) with 60 adolescents (aged 14-16). They recorded EEG during rest and cognitive tasks (mental arithmetic and complex Visual Spatial Imagery). Higher IQ was associated with increased complexity of EEG patterns, as measured by dimensional complexity (a nonlinear measure of signal dynamics), particularly in Frontal and Central regions. Task-induced changes in Alpha power and coherence were also correlated with IQ, with high-IQ individuals showing more pronounced modulation of EEG activity. These results suggest that intelligence is linked to flexible and complex

neural dynamics. Again this study reveals that High IQ people show greater reductions in their otherwise high Alpha activity when confronted with challenging cognitive and visual imagery tasks, which are known to reduce Alpha activity in everyone, but more so in High IQ people. Biocybernaut Alpha training always includes training in both Alpha Enhancement and Alpha Suppression.

4. Klimesch [66], in a report entitled EEG Alpha and Theta oscillations reflect cognitive and memory performance: A review and analysis describes and synthesizes evidence on the role of EEG Alpha (8-13 Hz) and Theta (4-8 Hz) oscillations in cognitive and memory performance, with implications for intelligence. Alpha power is shown to be inversely related to cognitive load, with lower Alpha power during demanding tasks reflecting greater neural activation. High-IQ individuals exhibit stronger Alpha desynchronization and more efficient neural resource allocation. Theta power increases with memory demands, and its synchronization is linked to working memory capacity, a key component of IQ. The review proposes that Alpha and Theta dynamics reflect the interplay of attention and memory processes.
5. Klimesch, Doppelmayr, Russegger, and Pachinger [67], describe Theta band power in the human scalp EEG and the encoding of new information. This study investigates the relationship between Theta band power (4-8 Hz) in the human scalp EEG and the encoding of new information during cognitive tasks. Twenty healthy adult participants performed memory tasks designed to engage working memory processes, while EEG was recorded from multiple scalp sites. Results showed that increases in Theta band power, particularly in Frontal and Parietal regions, were significantly associated with successful encoding of new information. Higher Theta power correlated with improved memory performance, suggesting that Theta oscillations play a critical role in working memory engagement and information processing, key components of intellectual performance. These findings support the hypothesis that Theta activity serves as a neurophysiological marker of cognitive processing efficiency, with implications for understanding the neural basis of intelligence and memory. The study is relevant to this work, as it supports the link between Theta activity and cognitive performance, complementing findings of frontal Theta increases during Biocybernaut Alpha training [19].
6. Doppelmayr, Klimesch, Stadler, Pöllhuber, and Heine [3], in a report entitled EEG Alpha power and intelligence. explored the relationship between resting EEG Alpha power and intelligence in 85 adults using the Raven's Progressive Matrices. EEG was recorded from 19 scalp sites, with a focus on Alpha (8-13 Hz) band power. During a highly demanding visual processing mental rotation task, high-IQ individuals showed greater Alpha suppression, indicating more efficient neural activation. The findings suggest that Alpha power at rest and its modulation during cognitive tasks are reliable correlates of intelligence, reflecting differences in neural resource allocation. This study strengthens the link between Alpha power and IQ.
7. Giannitrapani [7], in a study entitled EEG correlates of intelligence in children, investigated EEG correlates of intelligence in 50 children (aged 8-12) using the Wechsler Intelligence Scale for Children (WISC). EEG was recorded during rest and simple cognitive tasks. Higher IQ was associated with increased Alpha Power and Coherence in Posterior regions, particularly in the 10-12 Hz range. Beta power (13-30 Hz) was also elevated in high-IQ children during tasks, suggesting greater cortical activation. This is consistent with the desynchronization of Alpha during cognitive processing and visual imaging tasks. The results indicate that EEG spectral measures can differentiate cognitive abilities in children, with implications for developmental neuroscience.
8. Posthuma, Neale, Boomsma and de Geus [76] in a paper entitled Are smarter brains running faster? Heritability of Alpha peak frequency, IQ, and their interrelation used the Wechsler Adult Intelligence Scale (WAIS) and reported on Alpha Peak Frequency (APF), the dominant frequency in the EEG Alpha band (8-13 Hz), which has been proposed as a marker of cognitive processing speed. They examined the heritability of APF and its relation to IQ in 160 twin pairs (aged 16-30). EEG was recorded during rest, and IQ was assessed. They found that Higher APF was correlated with higher IQ ($r = 0.29$, $p < 0.01$), and both traits showed significant heritability (APF: 80%, IQ: 85%). Genetic analyses indicated that the correlation between APF and IQ is partly due to shared genetic factors. These findings suggest that faster neural processing, as indexed by APF, contributes to intelligence. This study provides a genetic perspective on EEG-IQ links.

A summary of the results of these 8 Neuroscientific studies of EEG and IQ reveals the following:

- 1) Higher IQ is linked to higher Alpha EEG power.
- 2) Higher IQ is linked to greater coherence in Alpha EEG.
- 3) Greater desynchronization (Alpha Suppression) is seen in Higher IQ people during the times that they are performing complex cognitive and visualization tasks.
- 4) Theta EEG activity increases during complex task performance in High IQ people.
- 5) Increased complexity of EEG patterns are seen in High IQ people during performance of complex tasks including bigger changes in Alpha power and Alpha coherence.
- 6) Higher IQ is associated with increased Alpha EEG power and coherence in Posterior regions of the brain, especially in the 10-12 Hz range.
- 7) Alpha Peak Frequency (APF) was positively correlated with Higher IQ ($p < .01$) suggesting that faster Alpha frequency was related to higher IQ.

It should also be noted that EEG research into creativity by Dr. Colin Martindale [70-73] has shown that highly creative people do not differ significantly from normals in their resting EEG Alpha activity. However, when people in both groups are given creative tasks to perform, the Highly creative people immediately turn on a High Alpha state in which they quickly and effectively solve the problems in a manner that distinguishes them as Creative People. Whereas the normals do not change their EEG Alpha activity and they work on the problems in their normal EEG state and thus perform only as well as normals usually do. This is consistent with findings by Hardt and Gale [51] that showed a +50% increase in creativity in Stanford Research Institute (SRI) Scientists who did the Biocybernaut Institute Alpha One training program. Some of the SRI scientists reported solving problems in their Alpha chambers that had eluded solutions for over 2 years. A control group of Silicon Valley engineers and scientists showed no changes in Creativity.

Intriguingly, and certainly relevantly, the Biocybernaut Institute Integrative Neuro-Transformation Training Program trains for and produces all of these specific IQ-relevant results including:

1. Increased Alpha Power.
2. Increased Alpha Hemi-Coherence, between pairs of channels in left and right hemispheres.
3. Ability to Suppress Alpha activity at will, voluntary desynchronization.
4. Increases of both fast and slow Theta at Frontal locations: F_3 and F_4 .
5. Ability to change Alpha frequency by training Slow, Middle, Fast and Broad Band Alpha.

Thus, it is scientifically understandable, comprehensible and explainable as to why there are such large increases, and such sustainable-across-months increases, of these important 3 different dimensions of IQ from the Biocybernaut Integrative Neuro-Transformation Brain Training Programs. Here now are the details of the study documenting these IQ changes.

Introduction

Neurofeedback is a technique enabling individuals to modulate their own brain wave activity, and it has emerged as a powerful tool for enhancing cognitive and emotional and even spiritual capacities, because there are known, and trainable, brain wave patterns for what many would describe as "Spiritual Phenomena". These experiences linked to specific EEG patterns include seeing Angels or other Astral plane beings, other EEG patterns for having Kundalini experiences and other EEG patterns for having a Halo and for still other patterns for doing effective Forgiveness work [10-13,15-22,24-39,44,46-51,53-55]. The Biocybernaut Institute's Alpha Neurofeedback

Training Programs leverages patented EEG technology and training methodologies to optimize enhancing cognitive functions, emotional regulation and beneficial altered state experiences. Examples include optimized Alpha brain wave activity, associated with relaxed alertness, creativity, and cognitive efficiency [19,71]. IQ increases from Biocybernaut training that are stable over time offer a lasting catalyst for innovation and learning. The Alpha One is a 7-day intensive program developed by Dr. James V. Hardt. It leverages patented EEG technology and patented EEG feedback training methodology to optimize important parameters of Alpha brain wave activity, associated with relaxed alertness, creativity, emotional well-being and cognitive efficiency [19]. The Alpha One Brain Wave Feedback Training (#1 of 24 different Alpha levels) focuses on learning how to both reduce and to increase the abundance and the amplitude Alpha EEG and to increase and decrease the Hemo-coherence of Alpha brain waves, which are positively associated with relaxed alertness, creativity, and cognitive performance and higher IQ. Previous research has demonstrated a 50% increase in creativity [51] and significant improvements in EQ (Emotional Intelligence) following this Biocybernaut Alpha One training [45].

Neuroscience research further links specific EEG parameters - such as increased Alpha Power, Alpha Coherence, and Theta Power during cognitive tasks-to higher intelligence [1,3,7,58,66,67,76,82,84]. The Biocybernaut Alpha Brain Training program specifically targets these EEG markers of high IQ and then uniquely integrates neurofeedback on these important EEG markers with a 14-step Forgiveness protocol and with Mood Scale assessments to address unconscious emotional barriers, potentially amplifying and sustaining the beneficial cognitive outcomes.

The Biocybernaut 14-step Forgiveness protocol [44] reduces stress-related Alpha suppression, enhancing neural plasticity [9,14,53,54]. Subtest improvements in Auditory Comprehension, Delayed Auditory Comprehension, Logical Steps, and Mystery Codes reflect enhanced processing skills. The absence of gains in Definitions suggests a focus on neurocognitive function. EQ improvements align with reduced anxiety and enhanced regulation [10-13,44,45,52,54,55]. This paper's synthesis examines the Biocybernaut program's impact on Composite IQ, Fluid IQ, and Crystallized IQ, as well as EQ (Emotional Intelligence), hypothesizing that sustainable improvements in these important dimensions of Intelligence are being driven by optimized neural dynamics and improvements in emotional processing. This study extends these findings by examining the Biocybernaut Alpha training's effects and by synthesizing these findings with broader neuroscience research. In the process, this paper explores the possible mechanisms behind these extraordinary results and their implications for individual and societal advancement. Hardt's 1994 vision of self-regulating individuals beneficially transforming themselves and their cultures through emergent properties associated with adding feedback to human brain systems, including emergent cognitive properties [23] suggests these gains could reshape humans, humanity and human cultures, fostering innovation, resilience and happiness.

A novel observation, the "Alpha Tan", suggests that trainees achieving dramatic Alpha increases experience a surge in cerebral blood flow, evidenced by flushed facial features. This aligns with the mammalian diving reflex, as practiced by Japanese inventor Yoshiro Nakamatsu, who attributes his creativity (over 3,200 patents) to breath-holding underwater [74,75,79]. In addition, Flügel's 1967 study with hypoxic (low Alpha patients) showed that vasodilation restored Alpha activity, psychic drive, and intellectual function in hypoxic patients [4], while Dr. Hardt's childhood IQ boosts from daily long-distance underwater swimming and early 3-4 hour long Alpha feedback training in Dr. Joe Kamiya's 1967 Lab at UCSF [10] support this mechanism. The persistent cognitive enhancements, unwavering over time, redefine human potential across diverse domains. This study synthesizes Biocybernaut's results with neuroscience, hypothesizing that sustainable IQ, EQ, and creativity increases are driven by EEG optimization, emotional processing, and cerebral blood flow enhancements. Hardt's 1994 vision of self-regulating individuals transforming culture through emergent properties [23] underscores these implications.

Methods

Participants

The study involved 48 participants divided into an Alpha training group (n = 24, mean age = 32.0 years) and a control group (n = 24, mean age = 46.4 years). The age difference was statistically significant (t = 1.776, df = 17, p < 0.05), but baseline IQ scores, measured using the Kaufman Adolescent and Adult Intelligence Test (KAIT), (62), showed no significant differences (Composite IQ: Alpha = 115.8,

Control = 111.5, $t = 0.637$, $p > 0.27$). Assessments were conducted before and at variable times post-intervention (Alpha: 119.9 days; Control: 105.5 days; $t = 0.172$, $p > 0.42$). Some of the post-intervention IQ tests were administered as far as one year out from completion of the Alpha training. By varying the elapsed time to the post-test, it was possible to test the stability of the IQ boost over time. The 24 participants who completed the 7-day Biocybernaut Single Alpha One Brain Wave Feedback Training, had Biocybernaut's intensive Alpha neurofeedback and coaching sessions lasting 6-12 hours daily. The Single Alpha One program, used in this IQ study, involves one lengthy session of Alpha feedback per day, whereas the Double Alpha One program, used more commonly nowadays, involves two lengthy Alpha feedback sessions per day with a lunch break in between the two Alpha feedback sessions. We know that the Alpha Double produces larger EQ boosts than the Alpha Single [45], so it is possible that the IQ boosts reported here could be substantially larger by using the Double Alpha training instead of the Single Alpha training, as was done here.

Procedure

The Alpha One training comprised 7 days of intensive neurofeedback sessions (6-12 hours daily) using a four-channel EEG setup with electrodes at O_1 , O_2 , C_3 , and C_4 , and additional non-feedback EEG recordings at T_3 , T_4 , F_3 , and F_4 [15] using the International 10-20 electrode placement system.

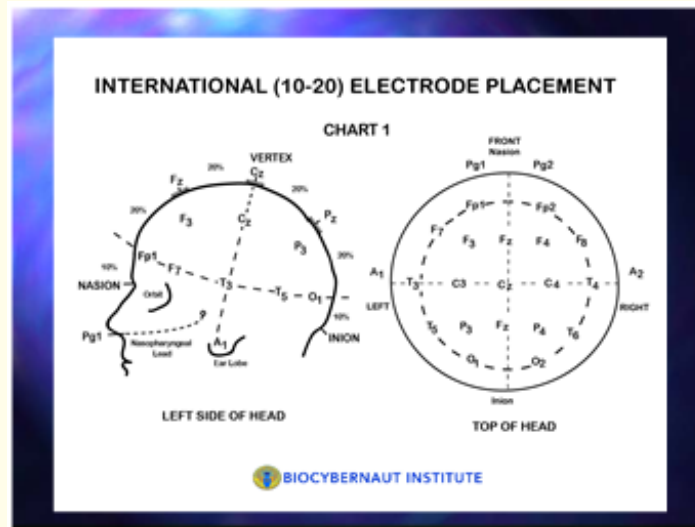


Figure A

Feedback was provided via 6 channel audio feedback in which the instantaneous audio amplitude of each of the 4 Integrated Amplitude feedback tones (one for the Integrated Amplitude scores derived from each head site) was controlled by the instantaneous amplitude of the broad band Alpha EEG at that head site. The 2 Hemicohereence scores had separate feedback tones. In addition, at 2 minutes intervals, digital visual feedback was provided as illuminated numerical scores for Alpha amplitudes and Alpha Hemicohereences. Also recorded, for later analysis, were integrated amplitude scores for Delta, slow/fast Theta, slow/broad/fast Alpha, and slow/broad Beta bands. Personalized coaching utilized computerized mood scales (adapted from POMS, MAACL, and CMS), administered 2 - 3 times daily. A proprietary algorithm assigned sigma values (1σ to $6\sigma+$) to identify potentially inaccurate mood responses that were used to guide depth interviews and to uncover unconscious emotions. These Mood Scale findings guided the informed use of the 14-step Forgiveness protocol, empirically refined since 1985, to address emotional traumas [44]. The control group received no intervention.

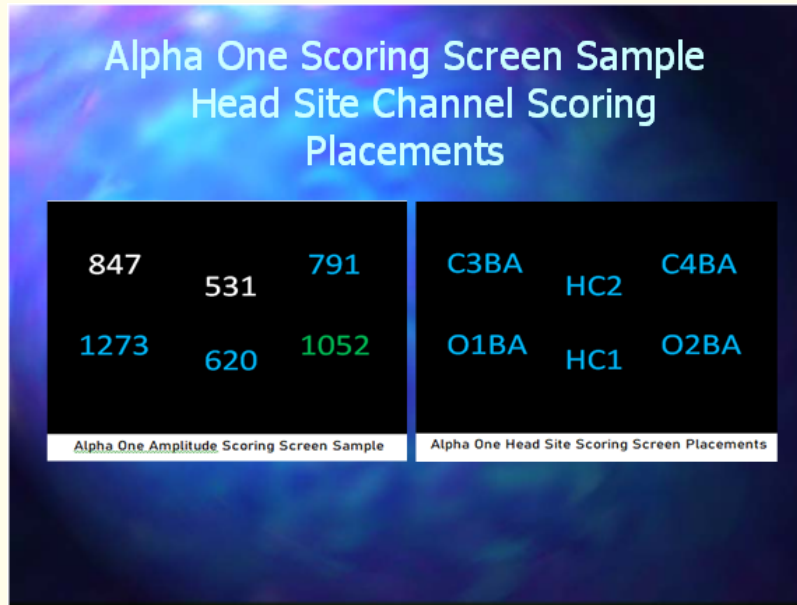


Figure B

The graphic above illustrates the EEG Alpha scores that were presented to the trainees for 8 seconds every 2 minutes as they sat upright in otherwise total darkness in individual sound proof chambers. The four Integrated Amplitude scores are: C3BA = C₃ (Left Central) Broad Band Alpha; C4BA = C₄ (Right Central) Broad Band Alpha; O1BA = O₁ (Left Occipital) Broad Band Alpha; O2BA = O₂ (Right Occipital) Broad Band Alpha. The conversion to microvolts of the Integrated amplitude scores is: 1500 = 25 μvolts. The Hemicoherece scores are a percentage, where 500 = 50% Hemicoherece, 1,000 = 100% Hemicoherece, and 0 = 0% Hemicoherece. HC2 = Hemicoherece between C₃ Alpha and C₄ Alpha. HC1 = Hemicoherece between O₁ Alpha and O₂ Alpha. The colors of the scores on the left image are used to index performance. If a score has gone down from the last 2-minute epoch, the color of the numbers is White. If the score has gone up from the last 2-minute epoch, the color of the numbers is Blue. If the score has gone up from the last 2-minute epoch so much that it has set a new high for the day, the color of the numbers is Green. This makes it possible for trainees to track their performance at a glance without having to remember their previous numerical scores.

Measures

The Kaufman Adolescent and Adult Intelligence Test, KAIT, assessed Fluid IQ (e.g. Rebus Learning, Rebus Delayed Recall, Logical Steps, Mystery Codes, Memory for Block Designs), Crystallized IQ (e.g. Definitions, Auditory Comprehension, Double Meanings, Delayed Auditory Comprehension), and Composite IQ [62]. EQ improvements were evaluated in a separate study [45] through testing with the Bradberry and Greaves online EQ test (Emotional Intelligence Appraisal®) which was taken online by each Alpha trainee both before and after the Biocybernaut Alpha training at www.TalentSmart.com/test [2]. EEG data included integrated amplitude and hemicoherece scores across all frequency bands.

Kaufman Adolescent & Adult Intelligence Test
Individual Test Record

by Alan S. Kaufman and Robert L. Kaufman

Name: _____ Sex: Male Female

Home address: _____ Phone: _____

Parent or Guardian: _____ Test date: _____
 Address: _____ Birth date: _____
 Grade: _____ Chronological age: _____

Current educational occupation: _____
 Highest school grade completed: _____

Examiner: _____

SUBTESTS	Raw Score	Subtest Scaled Score (Table D-11; M = 10, SD = 3)			Other Data
		Crystallized Scale	Fluid Scale	Delayed Recall	
1. Definitions					
2. Ribbus Learning					
3. Logical Steps					
4. Auditory Comprehension					
5. Mystery Codes					
6. Double Meanings					
7. Ribbus Delayed Recall					
8. Auditory Delayed Recall					
9. Memory for Block Designs					
10. Famous Faces					

Sum of Three Core Subtest Scaled Scores: Crystallized Scale (Table D-3), Fluid Scale (Table D-3), Composite Intelligence Scale (Table D-6)

IQ: _____
 Confidence Interval: 90% 95%
 Percentile Rank: _____
 Mean Scaled Score: _____
 Descriptive Category: _____

Crystallized and Fluid IQ Comparison: Crystallized IQ _____, Fluid IQ _____, IQ Difference _____

Statistical Significance (p < .05):
 Age: 14 or younger: 11, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100
 14 or younger: 11, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100
 35 or older: 8, 11

Kaufman Adolescent & Adult Intelligence Test
Individual Test Record

by Alan S. Kaufman and Robert L. Kaufman

Name: _____ Sex: Male Female

Home address: _____ Phone: _____

Parent or Guardian: _____ Test date: _____
 Address: _____ Birth date: _____
 Grade: _____ Chronological age: _____

Current educational occupation: _____
 Highest school grade completed: _____

Examiner: _____

SUBTESTS	Raw Score	Subtest Scaled Score (Table D-11; M = 10, SD = 3)			Other Data
		Crystallized Scale	Fluid Scale	Delayed Recall	
1. Definitions					
2. Ribbus Learning					
3. Logical Steps					
4. Auditory Comprehension					
5. Mystery Codes					
6. Double Meanings					
7. Ribbus Delayed Recall					
8. Auditory Delayed Recall					
9. Memory for Block Designs					
10. Famous Faces					

Sum of Three Core Subtest Scaled Scores: Crystallized Scale (Table D-3), Fluid Scale (Table D-3), Composite Intelligence Scale (Table D-6)

IQ: _____
 Confidence Interval: 90% 95%
 Percentile Rank: _____
 Mean Scaled Score: _____
 Descriptive Category: _____

Crystallized and Fluid IQ Comparison: Crystallized IQ _____, Fluid IQ _____, IQ Difference _____

Statistical Significance (p < .05):
 Age: 14 or younger: 11, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100
 14 or younger: 11, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100
 35 or older: 8, 11

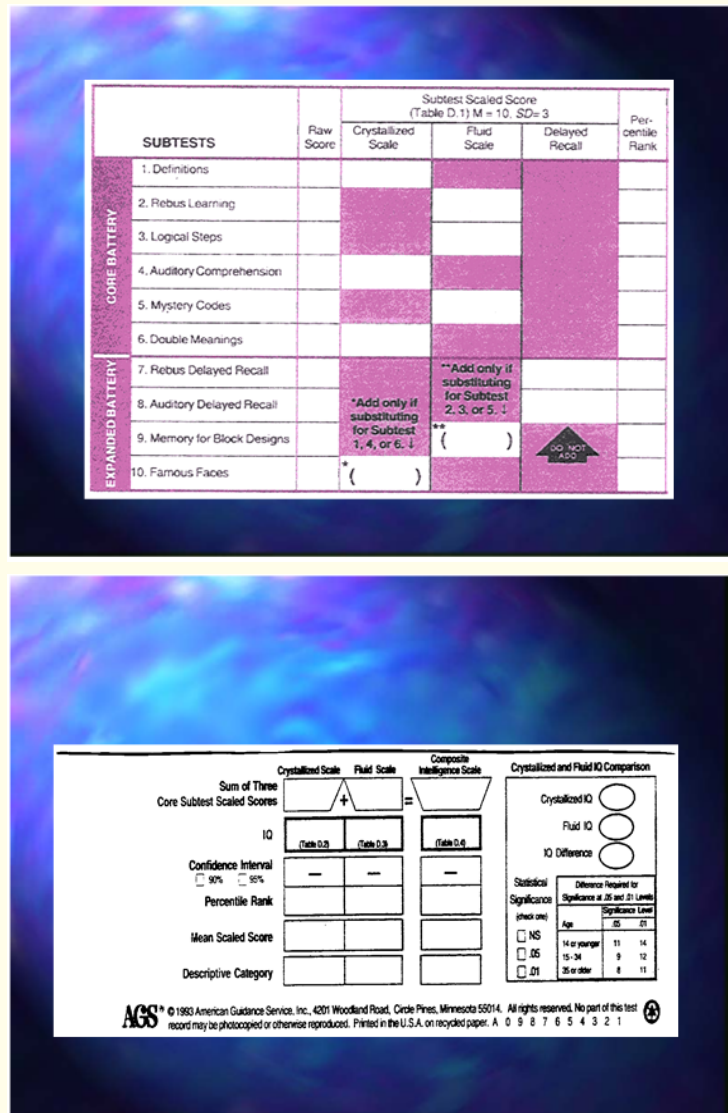


Figure c

Analysis

Independent t-tests compared between-group differences, paired t-tests evaluated pre-post changes within the Alpha group, and Pearson Product Moment Correlations assessed relationships between IQ changes, age, elapsed time, and baseline IQ.

Results

The Alpha training group demonstrated significant IQ increases across all dimensions, while the control group showed no notable changes. The following sections detail important participant characteristics, IQ scores, EEG and EQ outcomes, and visualizations. Stable, long-lasting IQ gains across all measures can fuel a lifetime of intellectual achievement. The Biocybernaut program’s enduring cognitive enhancements reshape futures with science-backed results.

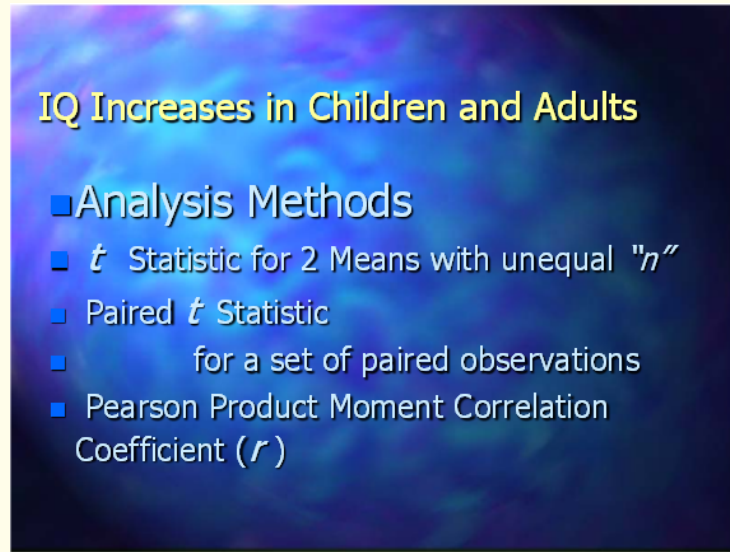


Figure D

Participant characteristics

- Chronological age: Alpha group mean = 32.0 years, Control group mean = 46.4 years (t = 1.776, df = 17, p < 0.05).
- Elapsed time between pre- and post-tests: Alpha group = 119.9 days, Control group = 105.5 days (t = 0.172, df = 17, p > 0.42).

Pre-test IQ scores: Comparison of alpha and control

- Crystallized IQ: Alpha = 114.1, Control = 111.8 (t = 0.307, p > 0.37).
- Fluid IQ: Alpha = 114.9, Control = 109.8 (t = 0.706, p > 0.24).
- Composite IQ: Alpha = 115.8, Control = 111.5 (t = 0.637, p > 0.27).
- Subtests: No significant differences in definitions, auditory comprehension, double meanings, rebus learning, logical steps, or mystery codes (p > 0.20 for all).

Post-test IQ scores: Comparison of alpha and control

- Crystallized IQ: Alpha = 125.0, Control = 112.8 (t = 1.273, p > 0.11).
- Fluid IQ: Alpha = 125.8, Control = 103.8 (t = 3.407, p < 0.0019).
- Composite IQ: Alpha = 127.5, Control = 109.3 (t = 2.587, p < 0.01).
- Subtests:
 - Auditory comprehension: Alpha = 14.7, Control = 10.5 (t = 2.961, p < 0.005).
 - Logical steps: Alpha = 14.6, Control = 9.0 (t = 3.784, p < 0.0008).
 - Mystery codes: Alpha = 13.5, Control = 9.3 (t = 2.933, p < 0.0028).

Changes in IQ scores (Post vs. Pre)

- Crystallized IQ: Alpha = +10.9 (t = 4.273, p < 0.00026), Control = +1.0 (not sig.).
- Fluid IQ: Alpha = +10.9 (t = 6.163, p < 0.0000053), Control = -6.0 (not sig.).

- Composite IQ: Alpha = +11.7 ($t = 7.977$, $p < 0.0000021$), Control = -2.2 (not sig.).
- Maximum individual gains in alpha group:
 - Crystallized IQ: +39 points.
 - Fluid IQ: +23 points.
 - Composite IQ: +19 points.

Percentile rank increases in alpha group

- Crystallized IQ: Average = +10.7% ($t = 3.599$, $p < 0.0015$), Max = +29%.
- Fluid IQ: Average = +15.3% ($t = 3.936$, $p < 0.0005$), Max = +49%.
- Composite IQ: Average = +13.0% ($t = 4.578$, $p < 0.00015$), Max = +33%.

Correlation analysis

No significant correlations were found between IQ changes and:

- Pre-test IQ scores ($r = +0.079$ to $+0.221$, $p > 0.20$).
- Chronological age ($r = -0.099$ to $+0.087$, $p > 0.20$), indicating that the Alpha IQ boosts work for everyone, regardless of age.
- Elapsed time between pre-test IQ and post-test IQ ($r = +0.045$ to $+0.118$, $p > 0.20$).

The Pearson correlation coefficients (r) between IQ changes and elapsed time for the Alpha group ($n = 24$) are:

- Crystallized IQ:
 - Overall: $r = +0.060$.
 - Definitions subtest: $r = +0.173$.
 - Auditory comprehension subtest: $r = +0.075$.
 - Double meanings subtest: $r = +0.047$.
- Fluid IQ:
 - Overall: $r = +0.045$.
 - Rebus learning subtest: $r = +0.117$.
 - Logical steps subtest: $r = -0.031$.
 - Mystery codes subtest: $r = +0.079$.
- Composite IQ:
 - Overall: $r = +0.118$.

All correlations of IQ changes with elapsed time between Pre-Alpha and Post-Alpha training have $p > 0.20$ and $df = 13$, indicating they are individually non-significant. Notably, 8 out of 9 correlations are positive, with Logical Steps being the only negative correlation ($r = -0.031$). This pattern suggests a potential trend toward positive associations with elapsed time, which we will test using a meta-analytic approach to combine these correlations.

To explore a potential trend of IQ increases strengthening over time, a meta-analysis combined the nine correlations between IQ changes (Composite, Fluid, Crystallized, and their subtests) and elapsed time. The combined correlation was weak ($r = 0.074$, $p = 0.308$), indicating no significant overall association. Despite eight of nine correlations being positive, suggesting a possible trend, the effect

size and statistical power are limited by the small sample size (n = 24) and low individual correlation magnitudes. Excluding the single negative correlation (Logical Steps, r = -0.031) yielded a slightly stronger but still non-significant correlation (r = 0.087, p = 0.259). These findings suggest that while there may be a weak tendency for IQ gains to slightly increase over time, the evidence is not statistically robust, warranting further investigation with larger samples. However, it is abundantly clear that the IQ boosts of the Biocybernaut Alpha training are sustainable and lasting. They do NOT fade over time.

EEG and IQ outcomes

The Alpha training increased Alpha power at all 8 headsites. Alpha hemicoherence increased between left hemisphere and right hemisphere channel pairs, and Theta power increased at F₃ and F₄, aligning with published EEG markers of high IQ, such as increased Alpha coherence [82] and greater Alpha suppression and Theta increases during cognitive tasks [19,58]. Qualitative reports indicated enhanced EQ, supported by mood scale improvements and reduced negative emotions via the Forgiveness protocol [44], using the standardized EQ measures of Bradberry and Greaves [2].

Visualizations

Figure 1 shows pre- and post-test IQ scores by group.

Description: Bar chart comparing pre- and post-test Composite IQ, Fluid IQ, and Crystallized IQ scores for Alpha and Control groups. Alpha group bars are represented by (blue variations), Control by (red variations), with pre-Alpha test in lighter shading and post-Alpha test in darker shading.

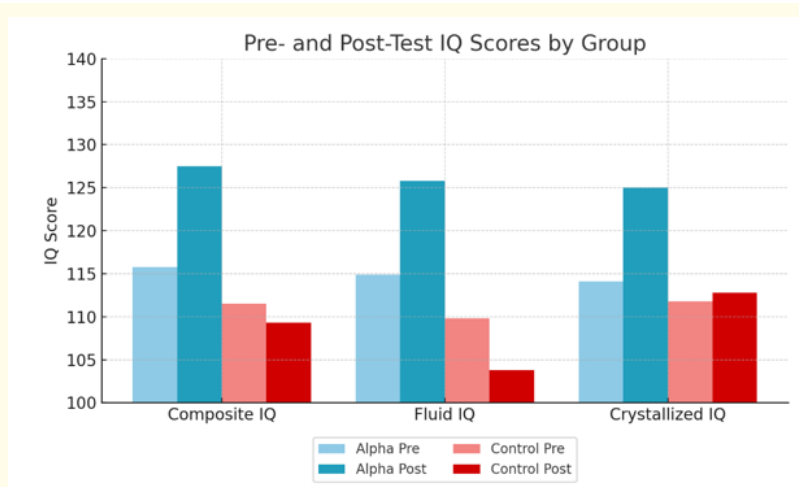


Figure 1: Pre- and post-test IQ scores by group.

Data: Alpha Pre (Composite 115.8, Fluid 114.9, Crystallized 114.1), Post (Composite 127.5, Fluid 125.8, Crystallized 125.0); Control Pre (Composite 111.5, Fluid 109.8, Crystallized 111.8), Post (Composite 109.3, Fluid 103.8, Crystallized 112.8).

Figure 2 shows IQ score changes.

Description: Bar chart showing mean IQ changes (Post Alpha training vs. Pre Alpha training) for Composite IQ, Fluid IQ, and Crystallized IQ. Alpha group changes are represented by (blue), Control by (red).

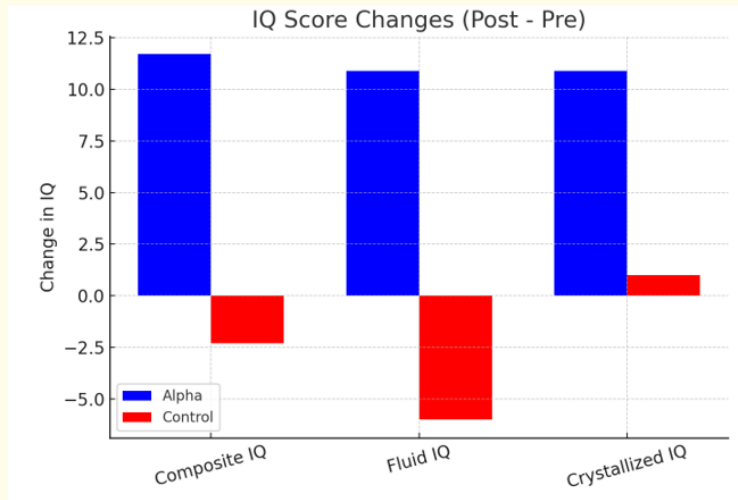


Figure 2: IQ score changes.

Legend: = Alpha (blue) = Control (red).

Data: Alpha (Composite +11.7, Fluid +10.9, Crystallized +10.9); Control (Composite - 2.2, Fluid - 6.0, Crystallized + 1.0).

Figure 3 shows percentile rank increases.

Description: Bar chart displaying average percentile rank increases for the Alpha group in Composite IQ, Fluid IQ, and Crystallized IQ, represented by (blue). Control group data not shown due to non-significance.

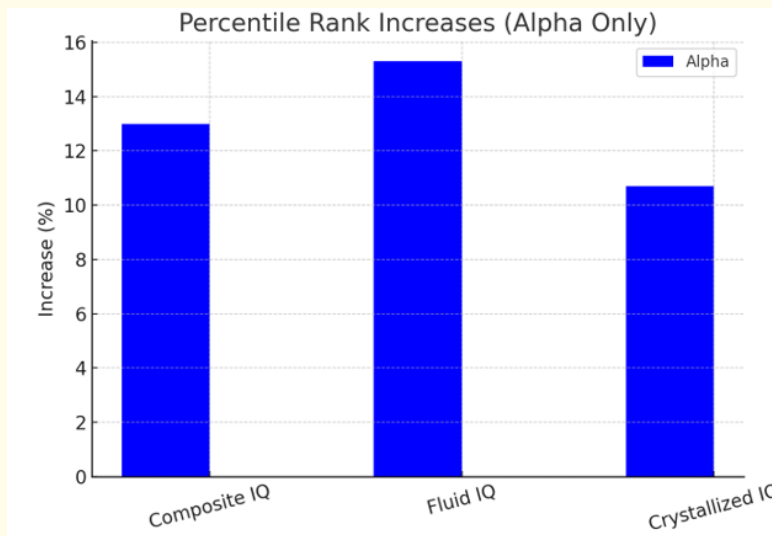


Figure 3: Percentile rank increases.

Data: Alpha (Composite IQ +13.0%, Fluid IQ +15.3%, Crystallized +10.7%).

Figure 4 shows subtest performance post-test for auditory comprehension, logical steps and mystery codes.

Description: Bar chart comparing post-test scores for Auditory Comprehension, Logical Steps, and Mystery Codes between Alpha (blue) and Control (red).

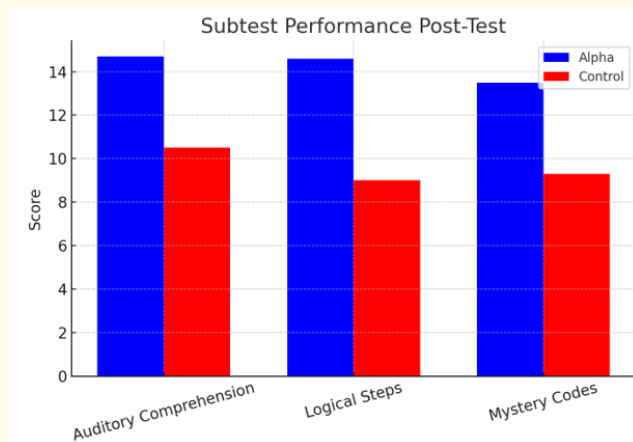


Figure 4: Subtest performance post-test for auditory comprehension, logical steps and mystery codes.

Legend: = Alpha (blue) = Control (red).

Data: Alpha (Auditory Comprehension +14.7, Logical Steps +14.6, Mystery Codes +13.5); Control (Auditory Comprehension +10.5, Logical Steps + 9.0, Mystery Codes + 9.3).

Figure 5 shows subtest performance post-test for definitions, double meanings and rebus learning.

Description: Bar chart comparing post-test scores for definitions, double meanings, and rebus learning between alpha (blue) and control (red).

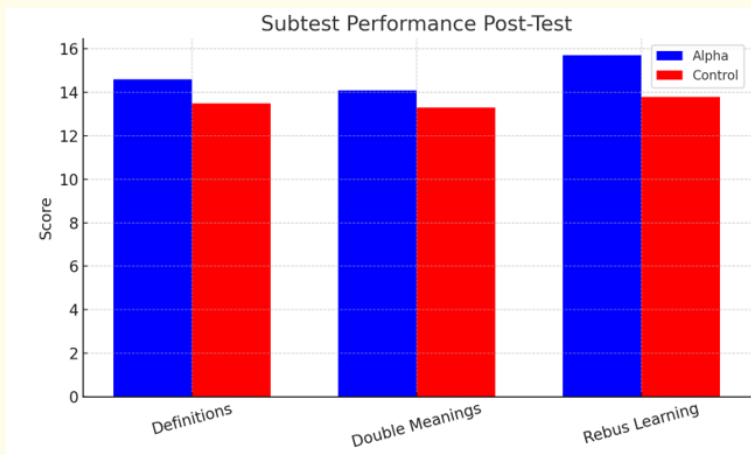


Figure 5: Subtest performance post-test for definitions, double meanings and rebus learning.

Legend: = Alpha (blue) = Control (red).

Data: Alpha (Definitions +14.6, Double Meanings +14.1, Rebus Learning +15.7); Control (Definitions +13.5, Double Meanings +13.3, Rebus Learning +13.8).

Figure 6 shows pre-post comparisons: Auditory comprehension, logical steps, mystery codes.

Description: Bar chart comparing post-test scores for Auditory Comprehension, Logical Steps, Mystery Codes between Alpha (blue variations) and Control (red variations).

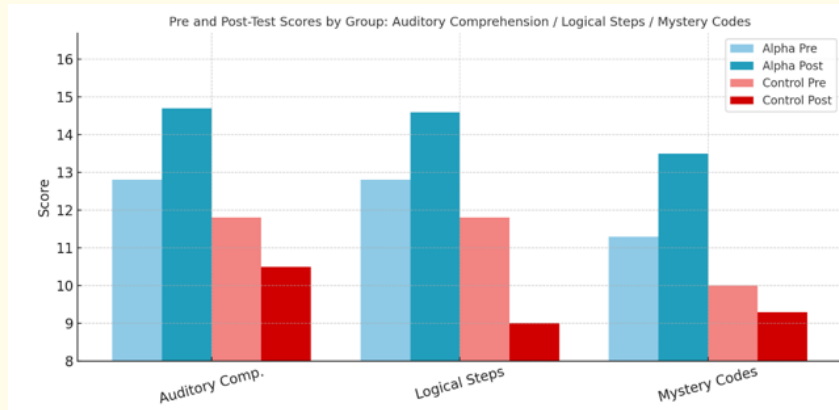


Figure 6: Pre-post comparisons: Auditory comprehension, logical steps, mystery codes.

Data: Alpha Pre (Auditory Comp. 12.8, Logical Steps 12.8, Mystery Codes 11.3); Alpha Post (Auditory Comp. 14.7, Logical Steps 14.6, Mystery Codes 13.5); Control Pre (Auditory Comp. 11.8, Logical Steps 11.8, Mystery Codes 10.0); Control Post (Auditory Comp. 10.5, Logical Steps 9.0, Mystery Codes 9.3).

Figure 7 shows pre-post comparisons: Definitions, double meanings, rebus learning.

Description: Bar chart comparing post-test scores for Definitions, Double Meanings, Rebus Learning between Alpha (blue variations) and Control (red variations).

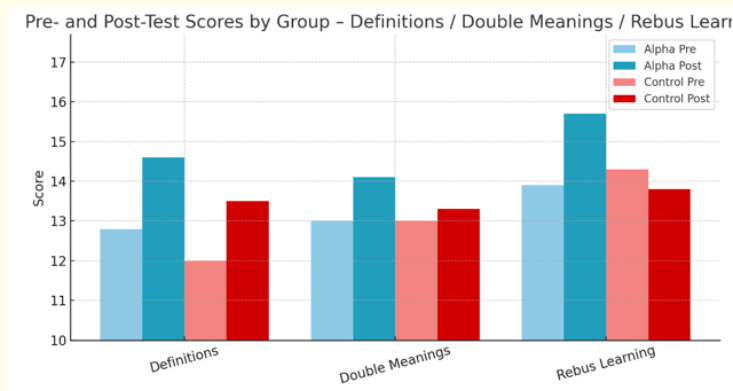


Figure 7: Pre-post comparisons: Definitions, double meanings, rebus learning.

Data: Alpha Pre (Definitions 12.8, Double Meanings 13.0, Rebus Learning 13.9); Alpha Post (Definitions 14.6, Double Meanings 14.1, Rebus Learning 15.7); Control Pre (Definitions 12.0, Double Meanings 13.0, Rebus Learning 14.3); Control Post (Definitions 13.5, Double Meanings 13.3, Rebus Learning 13.8).

Group	N	Mean Age (Years)	Baseline Composite IQ	Baseline Fluid IQ	Baseline Crystallized IQ
Alpha	24	32.0	115.8	114.9	114.1
Control	24	46.4	111.5	109.8	111.8

Table 1: Participant demographics and baseline characteristics.

Group	IQ Type	Pre-Test Mean	Post-Test Mean	Change	t-value	p-value
Alpha	Composite	115.8	127.5	+11.7	7.977	< 0.0000021
Alpha	Fluid	114.9	125.8	+10.9	6.163	< 0.0000053
Alpha	Crystallized	114.1	125.0	+10.9	4.273	< 0.00026
Control	Composite	111.5	109.3	-2.2	-	Not significant
Control	Fluid	109.8	103.8	-6.0	-	Not significant
Control	Crystallized	111.8	112.8	+1.0	-	Not significant

Table 2: Pre- and post-test IQ scores.

Subtest	Alpha Mean	Control Mean	t-value	p-value
Auditory Comprehension	14.7	10.5	2.961	< 0.005
Logical Steps	14.6	9.0	3.784	< 0.0008
Mystery Codes	13.5	9.3	2.933	< 0.0028

Table 3: Subtest post-test scores.

Discussion

The Biocybernaut Alpha One Neurofeedback Training produced significant and temporally sustained increases in Composite IQ (+11.7 points), Fluid IQ (+10.9 points), and Crystallized IQ (+10.9 points), with maximum individual gains of +19, +23, and +39 points, respectively [29]. These improvements, stable for at least a year after Alpha training and independent of age, baseline IQ, or time between Pre- and Post-IQ tests, suggest very broad applicability of this Biocybernaut Alpha training program across diverse populations. The control group’s lack of significant changes underscores the Alpha training’s power and efficacy. These non-diminishing IQ boosts provide a lifelong edge for problem-solving and creativity.

The Biocybernaut Alpha training’s enhancement of Alpha power, Alpha hemicoherence, and frontal Theta activity aligns with established EEG markers of high IQ. For instance, Thatcher, *et al.* [82] found that higher IQ is associated with increased Alpha coherence in Frontal and Parietal regions, while Jausovec and Jausovec [58] reported greater Alpha suppression and Theta increases in high-IQ individuals during cognitive tasks. Similarly, Anokhin, *et al.* [1] linked higher IQ to increased EEG complexity (ability to Enhance and Suppress Alpha situationally appropriately), and Doppelmayr, *et al.* [3] noted stronger Alpha suppression in high-IQ individuals during demanding tasks. Giannitrapani [7] showed Higher IQ in children 8-12 was associated with increased Alpha Power and Coherence in Posterior regions, particularly in the 10-12 Hz range. Beta power (13-30 Hz) was also elevated in high-IQ children during tasks, suggesting greater cortical activation, which is called Alpha desynchronization. Klimesch [66] and Klimesch, *et al.* [67] showed that Alpha power is inversely related to cognitive load, with lower Alpha power during demanding tasks reflecting greater neural activation. High-IQ individuals exhibit stronger Alpha desynchronization and more efficient neural resource allocation. Theta power increased with memory demands, and its synchronization is linked to working memory capacity, a key component of IQ. Large (+50%) creativity increases have been reported to be associated with Biocybernaut Alpha feedback training for Enhancing and Suppressing Alpha [51] and this is supported by EEG studies linking Alpha activity to creative problem-solving [71].

The Biocybernaut Alpha One protocol's ability to train increases and decreases of Alpha power and Alpha hemicoherence over the whole head, and to increase Theta activity at F₃ and F₄ [19] directly targets these important EEG markers of high IQ, likely driving the observed cognitive gains in IQ, EQ and Creativity. Additionally, higher Alpha Peak Frequency (APF), shown to be correlated with high IQ [76], and with increased posterior Alpha coherence in children [7] further support the Biocybernaut Alpha One Brain Training program's neuroscientific foundation.

The Biocybernaut 14-step Forgiveness protocol, refined through extensive empirical testing [44], addresses unconscious emotional traumas, reducing stress-related Alpha suppression and increasing the power and coherence of Alpha, enhancing neural efficiency, as supported by research on neurofeedback's beneficial effects on anxiety and depression [9,12,14,39,42,44,45,53-55]. This emotional processing may amplify cognitive gains by mitigating barriers that impair neural plasticity. Subtest improvements in Auditory Comprehension, Delayed Auditory Comprehension, Logical Steps, and Mystery Codes indicate enhanced verbal processing, reasoning, and pattern recognition-skills critical for real-world cognitive tasks. The absence of significant gains in the Definitions subtest suggests a focus on neurocognitive processing rather than rote knowledge acquisition.

A novel laboratory observation, the "Alpha Tan", suggests that trainees achieving dramatic Alpha increases experience a surge in cerebral blood flow, evidenced by flushed facial features, akin to the mammalian diving reflex [75,79]. Japanese inventor Yoshiro Nakamatsu attributes his creativity (over 3,200 patents) to breath-holding underwater [74] which activated the mammalian diving reflex and increases the proportion of the blood supply that goes to the brain. Flügel's 1967 study showed that injection-induced vasodilation restored Alpha activity, psychic drive, and intellectual function in hypoxic patients who are typically lacking in all three of these [4]. Dr. Hardt's childhood IQ boosts from long-distance underwater swimming and early intensive 3-4 hours sessions of Alpha feedback training, starting in Dr. Joe Kamiya's lab in the Summer of 1967 [10,20] support this link. The persistent stability of Biocybernaut's IQ gains ensures enduring benefits for both individual and societal progress.

Quantitative EQ improvements, supported by mood scale outcomes and participant reports, align with prior findings of reduced anxiety and enhanced emotional regulation [11-14,44,45,55]. The effective integration of emotional and cognitive training positions the Biocybernaut Alpha One Brain Training program as an holistic intervention, with potential to transform individual and professional lives, cultures and societal systems. For example, enhanced Fluid IQ supports adaptive problem-solving, crucial for innovation, while Crystallized IQ gains improve knowledge application, benefiting education and professional performance. EQ enhancements foster better interpersonal relationships and emotional resilience, with implications for mental health, positive personal and professional relationships and leadership. Hardt's 1994 vision of self-regulating individuals transforming culture through emergent cognitive properties and emergent spiritual and other as-yet-unimagined types of emergent properties [23] suggests these gains could reshape societal norms, fostering innovation and resilience and an enduring Golden Age for all Humanity.

Summary

Biocybernaut's 7-day Alpha One Neurofeedback Training significantly enhances Composite IQ, Fluid IQ, and Crystallized IQ, with average gains of +11.7, +10.9, and +10.9 points, respectively, and maximum increases up to +39 points [29]. Quantitative EQ improvements complement these cognitive gains, which are driven by optimized Alpha power, Alpha Hemicoherence, and Theta activity, alongside emotional processing via the Biocybernaut 14-step Forgiveness protocol [44,51]. These time-stable IQ increases across nine dimensions signal a lasting revolution in cognitive potential. These findings align with neuroscience research linking EEG parameters to intelligence [1,3,7,58,66,67,71,76,82] and emotional regulation and healing [1,3,7,58,66,67,71,76,82].

It is also possible that some benefits are obtained through learned increases in cerebral blood flow, evidenced by the "Alpha Tan" [4,74,75,79]. This vascular mechanism, which floods the brain with additional blood supply in response to profound "letting go" during Alpha feedback training is akin to the mammalian diving reflex [75,79] in which a mammal submerged in water experiences reduced

peripheral blood flow and increased cerebral blood flow, to ensure the mammal retains consciousness as long as possible to maximize the chances of survival. The Japanese super-inventor Yoshiro Nakamatsu, with over 3,200 patents, credits his creativity to breath-holding underwater [74]. In addition, Flügel's 1967 study of low Alpha hypoxic patients showed the injection-induced vasodilation restored Alpha activity, psychic drive, and intellectual function in hypoxic patients [4]. This mirrors Dr. Hardt's childhood IQ boosts from long-distance underwater swimming and long sessions 3-4 hours in Dr. Joe Kamiya's early (1967) neurofeedback chamber [10,20], enhancing Alpha while likely enhancing neural efficiency. The Biocybernaut Integrative Neuro Transformation program's stable cognitive gains offer a timeless foundation for human advancement. Hardt's 1994 vision [22] of self-regulating individuals transforming culture through emergent cognitive and spiritual properties suggests these gains could reshape societal norms, fostering innovation, resilience, and cultural harmony.

The program's holistic approach offers transformative applications in education, personal and professional development, peak performance, mental health, societal equity, spiritual development and providing a scientific EEG basis for profound and highly sought-after spiritual experiences, IQ boosts, creativity gains and potentially closing achievement gaps, enhancing social cohesion and cultural harmony and fostering creativity and innovation. The findings suggest transformative applications in all of these areas: education, personal and professional development, science, engineering, innovation, creativity and mental health, spiritual development, warranting further rigorous investigation. Further research is needed to confirm these findings in larger populations and to explore their broader implications, positioning the Biocybernaut Integrative Neuro Transformation Alpha Brain Training program as a beacon for cognitive and emotional empowerment in an increasingly complex world. Hardt's 1994 vision of self-regulating individuals transforming culture through emergent cognitive properties and emergent spiritual and other as-yet-unimagined types of properties [20,21] suggests these gains could reshape societal norms, fostering innovation and resilience and an enduring Golden Age for all Humanity.

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