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Couples Biofeedback Training using Alive Pioneer®

Alive Pioneer enables couples to train together with both partners being measured simultaneously in Alive. By using physiological synchronization as feedback they can improve co-regulation and therapeutical efficacy.

By Yuval Oded, PhD (c)

Interpersonal Biofeedback Training with Couples

When used in psychotherapy, biofeedback training aims at increasing patients' awareness of their bodily states and the body-mind connection. This awareness, along with biofeedback training, allows patients to learn to improve their self-regulation skills. Generally, the role of the therapist is to assist the client to achieve these goals by teaching him several techniques and finding those that best contribute to a more balanced and flexible autonomic nervous system, allowing efficient functioning in the face of varying internal and external environmental stimuli.

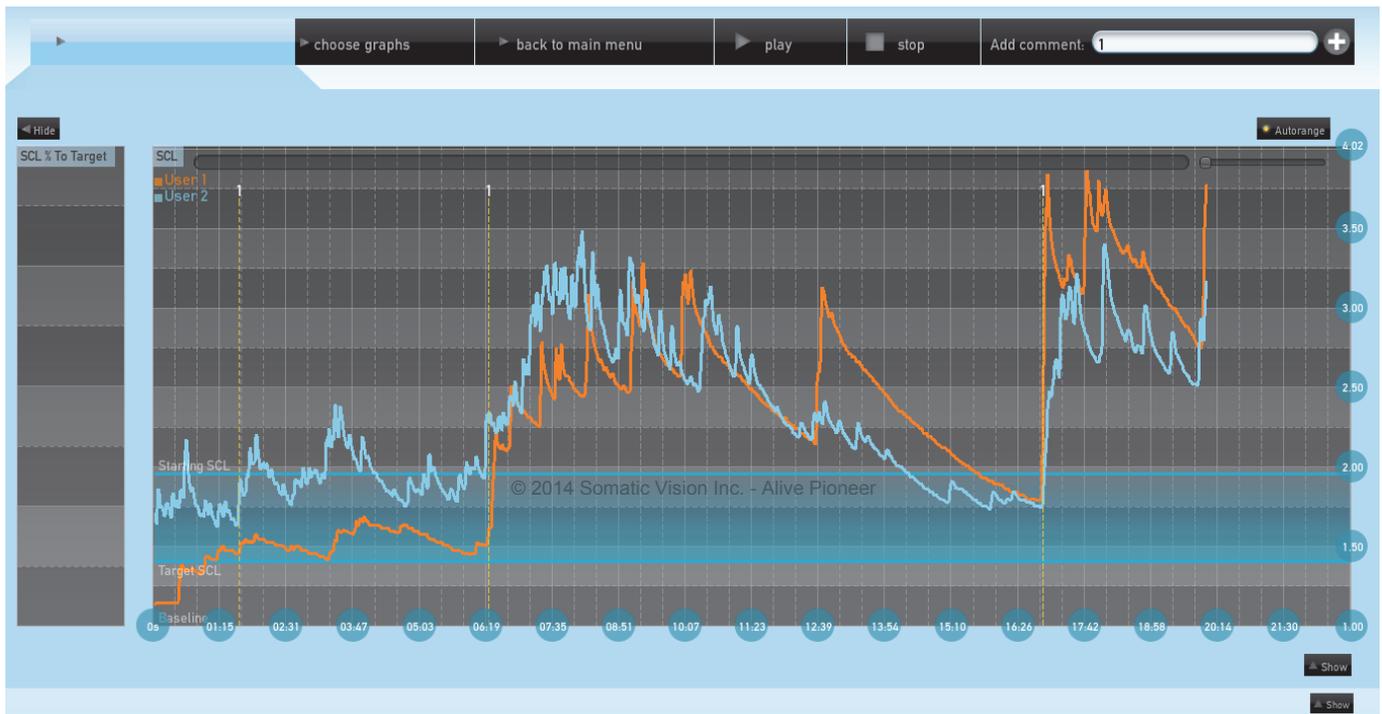
The focus in such an intervention is on the psychological state of the client and on his physiology. In this article we would like to present a few ways where biofeedback is used in the context of a relationship, using examples from couples therapy and discuss how extending the traditional role of biofeedback opens new possibilities in therapy.

Couples therapy many times elicits very extreme emotional reactions. For a therapist observing the interaction, it is often very clear how partners react to each other's' emotions and behaviors but for the partners themselves those patterns may not be conscious. Since many patterns of behaviors are related to deeply automatic reactions dependent on past histories of the partners, it can take a lot of time and effort to help them change those rigid behaviors.

John Bowlby, an anthropologist and psychoanalyst recognized that human children thrive in the context of consistent and caring adults. He developed the concepts of attachment schema, proximity seeking and a secure base. Bowlby (1988) believed attachment schema to be summations of thousands of experiences with caretakers that become unconscious reflexive predictions of the behaviors of others. These schema become activated in subsequent relationships and lead us to either seek or avoid proximity. They also determine whether we can use relationships to maintain physiological homeostasis and regulate our emotions. These implicit memory schema are automatically activated before we are even conscious of the people with whom we are about to interact. When an individual feels threatened, distressed or challenged he may unconsciously recruit his defensive behaviors (Simpson & Rholes, 2012).

In their work on emotional contagion, Levenson and Gottman (1983) proposed that when the autonomic nervous system (ANS) physiology of two people shows "linkage" (i.e., one person's patterns of activation across the ANS measures mirror those of another person), there is emotional involvement.

When using dyadic or interpersonal biofeedback to monitor interactions between partners powerful insights may contribute to a successful therapeutical process.



In this example the SCL levels of a couple was monitored while communicating (the orange and blue lines show two different users, each wearing an IOM to measure their SCL). This is a wonderful example for “emotional contagion”. Both arousal buildup and recovery are amazingly synchronized.

A good relationship turns off defensiveness, enhances feeling of safety and improves co-regulation. Dyadic biofeedback in the context of couples therapy can be implemented in three stages of intervention as follows.

STAGE 1

“Looking into each other’s autonomic nervous system”

This stage is explorative. Each partners' psychophysiological reactivity is measured while they discuss different issues and while at rest. This stage increases both self-awareness and awareness of the connection between both partners' nervous systems. Each partner can see into the other's nervous system in real time. The concrete feedback showing the interplay between the partners reveals how sensitive psychological issues are manifested in the body, sometimes not consciously minded. Partners can notice what happens to each of them while talking, arguing, raising their voice, listening, etc.

For the therapist it is important to notice which physiological parameters are reactive for each partner and how quickly and completely they recover after arousal levels rise.

STAGE 2

Learning self-regulation and co-regulation

Stress management and mindfulness techniques are practiced both while using and without using psychophysiological feedback. After mastering the techniques they are used to maintain a positive emotional state or to recover from a situation that elicits negative emotions. It is important to remember that there are individual differences in emotion regulation and the physiological feedback makes it possible to validate effective ways for each of the partners. Mindfulness is a wonderful way to teach emotional and arousal-based regulation. It weakens the chain of associations that keep people obsessing and strengthens connections between the prefrontal cortex and the amygdala promoting quick recovery from setbacks (Davidson, 2003). It is used in clinical settings to help the couple be aware of their thoughts, feelings and sensations without judgment, thus improving the management of their inner world. It is an effective way to let go of some automatic harmful thinking patterns. Accepting them “as is” while agreeing to let go of them (noticing and allowing) opens attention and changes attentional deployment. Teaching the couple to let go of thoughts and of body tension is essential and will help improving their self-regulatory abilities, influencing the quality of attention and the feeling of safety together. Practicing mindfulness together (meditating face to face) enhances mutual regulation while letting go of defensive behaviors. To promote this interactive regulation and improve the ability to shift emotional states, the monitoring of each partners voice,

eyes and body cues (in addition to psychophysiological monitoring) is very important. This stage also focuses on other ways to promote emotional regulation at the couples level such as empathic listening, physical contact, support, problem solving, resonant frequency breathing (Gevirtz, 2000) and more.

STAGE 3

“Establishing an optimal arousal communication zone”

At this stage the therapist creates an “arousal zone” fit for constructive communication. He may choose from those physiological channels he observed are reactive for both partners and set it to a zone adaptable to both partners’ nervous systems. It is important to define a zone that fits both partners physiology and enables the discussion to flow. In cases where each partner is reactive in different physiological channels this exercise may be tailored taking into account the differences. If their physiologies differ greatly, each partner may be monitored separately.



This example shows great differences between couples reactivity and ability to regulate so the zone may need to be extended to enable communication to flow. Such differences can be used to help clients understand their different reactivity and encourage them to find ways to co-regulate.

At this stage partners train to listen to each other while maintaining their physiology inside the zone. If a partner gets out of the zone he has to return to the zone and “cool down” before he is “allowed” to continue the discussion with his partner. This exercise shows the buildup of arousal (relative to a desired arousal level) in real time. The process of letting go strengthens the couples’ ability for empathic listening while maintaining optimal arousal levels and co-regulating. This way a change in pathologic habitual communication patterns is achieved; they can discuss difficult subjects without the fear of “getting out of balance” and being dominated by a dysregulated nervous system.

Using Heart Rate Variability synchronization can be very helpful to create an open hearted and safe environment. In this case a threshold for optimal coherence level may be defined. This bottom-up approach of changing the state of each partner’s mind and body improves the couples ability to manage each other, especially under conflict and distress. On the other side, sharing positive emotions while maintaining a balanced nervous system increases positive affect at the interpersonal level.

It is recommended to try this intervention in both calm and conflictual situations and to help partners find proper ways of helping each other to calm. It is impressive to see how well partners can enact behaviors that buffer (regulate) each other’s insecurities.



Staying inside the “zone of communication”

At the psychoeducation level partners learn that while interacting with another person, very fast-acting subcortical processes are taking place, and as Tatkin (2011) put it: “it is the function of the left hemisphere to confabulate because it doesn’t know what the right hemisphere and subcortical areas are doing. We act and react much faster than our cognition and our words.” This helps lower guilt or shame and shift focus to changing the negative habits.

Issues and Challenges in Interpersonal Biofeedback Training

The psychologist or trainer must take precautions while using biofeedback in couples therapy to make sure that this unique way to enhance self-regulation and co-regulation does not cause negative effects. One major potential issue is that partners may compare themselves to each other (how tense or calm each of them is). This is not desired. It is very important to encourage a nonjudgmental attitude during training. For some this unique way of mirroring their physiology can act negatively on their self-efficacy (Bandura, 1991). Some may have known that they were stressed but managed to conceal this stress from themselves or from their partners. In some cases the objective, medical like device that measures stress may show them that they are more stressed than they believed they were. In other cases partners may use the feedback to validate the fact that their partner is the one to blame, for example for being too sensitive.

During therapy we emphasize:

- a. That physiological patterns are unique to each individual and the goal in training is for each to improve his self-regulation relative to himself and then expand his skills to co-regulate the other.
- b. That this kind of therapy requires intimacy and trust between partners.

Conclusion

If performed with sensitivity and at the right pacing, dyadic biofeedback with couples in therapy may help changing rigid patterned behaviors, quality of communication and enhance co-regulation between the partners. This approach may be adapted to other dyadic interactions such as parent-child, two team mates, etc.

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Author

Yuval Oded, PhD (c) is the founder of Psy-Phi, a company that uses a “Mental Gym” to train elite defense units and combat pilots to achieve and maintain optimal performance under stress. He also provides biofeedback and peak performance training to the French Ministry of Defense, athletes, psychologists, physicians, social workers and tech companies. Oded is a clinical psychophysiological specializing in the treatment of extreme stress. He is the founder and director of clinics throughout Israel that integrate biofeedback to treat a wide array of conditions, including anxiety disorders, behavioral disorders, chronic illnesses, neurological problems, psychosomatic problems, head trauma and post-traumatic stress disorder.

Apart from this paper, Oded is also the author of the *Alive Clinical Version User Guide*, the *Alive Clinical Version Introduction Video*, and the *Alive Workshops* (on- and off-screen) found in *Alive* and in the *Alive User Guide*.

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