

**From Good to Great: The Use of Biofeedback in Employee Assistance Programs as a Tool to Build Resilience in the Workplace**  
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Presentation for the **WESTERN ASSOCIATION OF BIOFEEDBACK & NEUROSCIENCE Annual Conference**  
 November 4, 2017

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**Disclosure**

- Materials that are included in this course may include interventions and modalities that are beyond the authorized practice of mental health professionals. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice in accordance with and in compliance with your professions standards.

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**What is an EAP and History of Biofeedback at UCLA's Staff and Faculty Counseling Center**

- What is an EAP and role of EAPs in workplace emotional and physical health
- Providing brief and effective interventions
- Early study using the Environ

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### Benefits Innovations in Employee Behavioral Health

- Employers recognize the business impact of behavioral health concerns in the workplace, including impaired performance, increased health expenditures, and short term disability claims and productivity loss.
- 53% of U.S. employees rate employee stress levels as either "high" or "very high" more than any other country.
- Behavioral health concerns represent one of the most common contributors to the use of short-term disability.
- EAPs understand behavioral health concerns and have increased awareness of depression and anxiety of employees and are utilizing more effective treatments.
- Aside from financial stress, job stress is the most prevalent source of stress reported by employees.
- An integrated Benefits Institute showed that anxiety and depression are major contributors to loss of productivity in the workplace.

From: Bruce Sherman and Lori Black Benefits Innovations in Employee Behavioral Health

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### Creating a Resilient Workforce

- The most successful health and wellbeing programs are those that have been integrated into the business and have become a part of the culture.
- Resilient leadership workshops are useful for covering physical, emotional, mental and spiritual needs and implementing evidence based practice underpinned with positive psychology principles.
- Resilience and other programs are necessary to support companies – to build a healthy health performing culture.

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### The Environ

- Research: The Use of Biofeedback as a tool in Providing Relaxation Training in an Employee Assistance Program Setting by Jorge Cherbosque and Frank Italiene published in the Employee Assistance Quarterly, 1999 [http://dx.doi.org/10.1300/J022v15n02\\_05](http://dx.doi.org/10.1300/J022v15n02_05)
- 29 subjects at SFCC
- Subjects showed a positive change in resistance to stress and learned to create deeper levels of relaxation. Subjects were able to significantly lower both their muscular tension levels (EMG) as well as decrease SCL levels.




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- The Environ Biofeedback System is an effective instrument to produce a positive physiological change. The goal of the treatment is to teach a relaxation procedure that can be directly utilized in the changing environment of our workers life and to assist them towards developing an effective coping strategy as a tool in resistance to stress.
- The Environ Biofeedback System is a patented biofeedback/relaxation system that was developed for behavior modification. It uses advanced computer technology to deliver integrated, multisensory stimuli to accelerate the development of positive behavioral responses, such as the relaxation response.

From: Jorge Cherbaque and Frank I. Italiani, 1999

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- Computer technology, as it is applied to sophisticated biofeedback instrumentation, allows auditory, olfactory, kinesthetic and visual stimuli to create specific stimulus-response patterns, enhancing behavior modification.
- Data was compiled and evaluated from Electromyography (EMG) and Skin Conductance Level (SCL), measured by the mean, high, low, and standard deviation. EMG is an indication of muscle tension, and SCL is an indication of emotional arousal directly related to the sympathetic nervous system, or what is commonly labeled "anxiety."

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### Results

- Overall results indicated both statistically significant change as well as a clinically relevant shift towards increased relaxation responsively.

From: Jorge Cherbaque and Frank I. Italiani, 1999

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### Conclusion

- We conclude from the data presented that our employees showed a positive change in resistance to stress and learned to create deeper levels of relaxation. The data indicates that the our clients were able to significantly lower both their muscular tension levels (as measured in the EMG) as well as decrease SCL levels.
- The Environ Biofeedback System appears to be a powerful instrument for training stress-reduction and relaxation.

From Jorge Charloque and Frank J. Balonek, 1999

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### In Search for a New System

- Received training and help to design a new biofeedback and resilience program from Dr. Stephen Sideroff, PhD and Thought Technology

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### Resilience Model

RELATIONSHIP	ORGANISMIC BALANCE & MASTERY	PROCESS
Relationship with Self	Physical Balance & Mastery	Presence
Relationship with Others	Mental Balance & Mastery	Flexibility
Relationship with Something Greater	Emotional Balance & Mastery	Power: the ability to get things done

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### Resilient Profile

The screenshot shows a software window titled 'Resilient Profile' with a data table. The table has multiple columns and rows, with a blue header row. The data is organized into sections, likely representing different categories of resilience factors.

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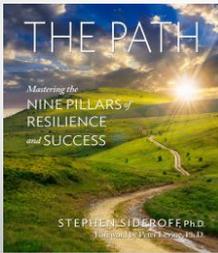
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### The Path: Mastering the Nine Pillars of Resilience & Success



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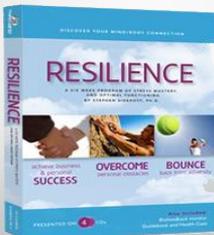
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### Resilience Audio Program



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Week One  
Self-awareness

- Personal Portrait – history and assessment of traits
- Physical, behavioral and emotional symptoms

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Week One  
Self-Awareness – Sources of Stress

- Noticing your time pressures
- Noticing your people pressures
- Noticing how your filtering (interpretations) create stress
- Noticing how your unfinished business creates stress
- Change and uncertainty as sources of stress

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Week Two  
Biofeedback Training

- Learn to relax
- Learn to reduce tension rapidly
- Becoming more sensitive to tension building in your body
- Generalizing the biofeedback training to real life stresses
- Use of visualization to help cope with difficult stressors

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### Week Three Preparing Your Body to Handle Stress

- Setting goals and daily planning to insure relaxation practice & and optimal prioritizing
- Focus and improvement of eating habits
- Using exercise to reduce stress

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### Week Four Mastering Your Thinking Patterns

- Controlling fears and catastrophic expectations
- Reality testing
- Identifying and overcoming "old rules"
- Assertiveness training
- Resolving unfinished business
- Staying in the present and ways of letting go

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### Week Five Developing a Positive Attitude & Self-Image

- Improving self-image: Giving your positive side more power
- Taking control of your life
- Your emotional boundaries and establishing new boundaries
- Giving meaning to your life

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**Week Six**  
**Problem Solving & Communication**

- Desensitization training to control anxiety and stress
- Rewarding your new and positive behaviors
- Problem solving techniques
- Communication and conflict resolution steps

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**Example of an exercise**

**Unfinished Business**

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**Common Reasons Employees Enroll in the SFCC Biofeedback and Resilience Program**

- Work Stress (new work environment, new boss, too much work)
- Work Performance (need to be more focused, need to pass a test)
- Anxiety (perfectionism, chronic worry, panic attacks, specific phobia, trauma)
- Workplace Injury (as part of the **UCLA WorkStrong Program**)
- Chronic Pain (*useful Chronic Pain and Hrv workshop-Stens*)
- Transition (new to LA, new job, job search)
- As a compliment to therapy
- Depression
- Sleep Disturbance
- Coping with Relational/Family Issues
- Heard about it in one of presentations and are curious
- Referred by their MD or another program participant
- Another EAP therapist refers them to the program

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## Biofeedback and Resilience Program

Clients complete a brief Stress Questionnaire prior to starting program

Date	Session	Biofeedback	Homework
	1	<ul style="list-style-type: none"> <li>Stress Assessment</li> <li>Introduction to how stress impacts the body and review Stress Assessment</li> </ul>	<ul style="list-style-type: none"> <li>Listen to Dr. Scheff's Resilience Living CD</li> <li>Complete packet: Resilient Profile, Anxiety and Depression Scale Checklist</li> </ul>
	2	<ul style="list-style-type: none"> <li>HRV</li> <li>2 min breathing with eyes closed</li> <li>2 min paced breathing</li> </ul>	<ul style="list-style-type: none"> <li>Practice breathing</li> <li>Read handouts</li> <li>CD 1: Self Awareness</li> <li>Self Awareness and Resilience packet</li> </ul>
	3	<ul style="list-style-type: none"> <li>Temp, SC, HRV</li> </ul>	<ul style="list-style-type: none"> <li>CD 2: Time Management, Goals, Healthy Eating and Exercise</li> <li>Homework packet with exercises related to CD</li> <li>Introduction to Mindfulness</li> </ul>

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## Biofeedback and Resilience Program

4	<ul style="list-style-type: none"> <li>EMG</li> <li>SC</li> </ul>	<ul style="list-style-type: none"> <li>CBT Part I</li> <li>CD 3: Successful Thinking</li> <li>Enhancing your self-image</li> </ul>
5	<ul style="list-style-type: none"> <li>EarWave Pin (Quick Coherence Technique)</li> </ul>	<ul style="list-style-type: none"> <li>CBT Part II</li> <li>CD 5: Enhancing your self-image</li> </ul>
6	<ul style="list-style-type: none"> <li>SC</li> <li>EMG</li> <li>Using Loving Kindness Meditation</li> </ul>	<ul style="list-style-type: none"> <li>CD 4 Problem solving and Communication</li> <li>Relaxation and Decatastrophization</li> <li>Handouts on communication</li> </ul>
7	<ul style="list-style-type: none"> <li>Biofeedback of their choice</li> </ul>	<ul style="list-style-type: none"> <li>In session complete outcome measures</li> <li>Final handout on managing stress</li> <li>Review skills attained during program</li> <li>Give them certificate of completion</li> </ul>

*Notes: Particulars to each client. E.g., Very difficult work situation, Patric Pain, Does better with own breathing rather than paced breathing, Breathing rate of 3*

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## Biofeedback Sessions

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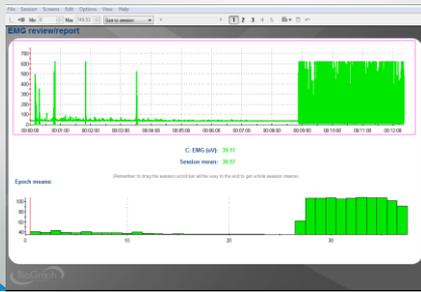
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### EMG using Loving Kindness Meditation



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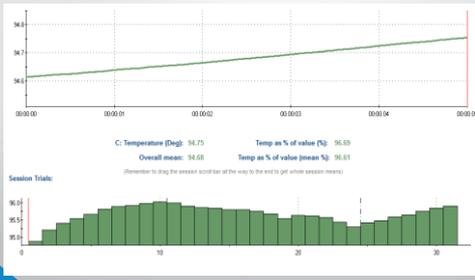
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### Temperature



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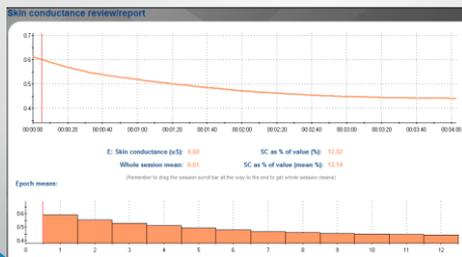
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### Mindful Meditation



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## 2012 – 2016 Biofeedback/ Resilience Program Summary\*

- 234 Clients have participated in 1 or more biofeedback sessions since we started using the Thought Technology Biofeedback System in 7/11
- 61 Clients have completed the 7 session program
- We are getting more referrals from the UCLA WorkStrong program (15 clients have been referred from the WS Program in the past two years and 7 have completed the program).
- Another trend is an increase in use by Nurses.

\* We have seen about 20 other individuals as of May 2017 and about 6 have completed the program. These numbers are not included in the above statistics.

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### The Following are Statistics that we gathered from those individuals completing the 7-session program

Relational	Mean*	
	Pre	Post
Relationship with Self	6.67	8
Relationship with Others	7.39	8.77
Relationship with Something Greater	8.79	9.81
<b>Total Relational</b>	<b>7.61</b>	<b>8.86</b>

\*higher numbers reflect higher levels of resilience

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### Organismic

	Mean*	
	Pre	Post
Physiological Balance	4.91	7.04
Emotional Balance	8.46	10.16
Cognitive Balance	6.31	7.43
<b>Total Organismic</b>	<b>6.56</b>	<b>8.21</b>

\*higher numbers reflect higher levels of resilience

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### Process

	Mean*	
	Pre	Post
Presence	9.03	10.17
Flexibility	8.69	9.14
Power	11.25	12.37
<b>Total Process</b>	<b>9.65</b>	<b>10.56</b>

\*higher numbers reflect higher levels of resilience

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### Resilience Profile (Higher scores reflect more resilience)

	Mean Pre	Mean Post
<b>TOTAL RESILIENCE:</b>	<b>7.94</b>	<b>9.21</b>

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### Burns Anxiety Checklist

Scoring key for anxiety:

Total Score	Degree of Anxiety
0 - 4	Minimal or no anxiety
5 - 10	Borderline anxiety
11 - 20	Mild anxiety
21 - 30	Moderate anxiety
31 - 50	Severe anxiety
51 - 99	Extreme anxiety or panic
<b>Mean Score</b>	<b>Pre (27.45)      Post (18.17)</b>

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### Beck Depression Inventory

Scoring key for depression:

Total Score	Degree of depression
1 – 10	These ups and downs are considered normal
11 – 16	Mild mood disturbances
17 – 20	Borderline clinical depression
21 – 30	Moderate depression
31 – 40	Severe depression
Over 40	Extreme depression
Mean Score	Pre (10.5)      Post (5.88)

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### Stress Level

(1 – 10, 1 Least Stressed, 10 Most Stressed)

Total Stress Score Mean	Pre (6.79)	Post (4.30)
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### Feedback From Participants After Program Completion

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### How effective was the Biofeedback program in helping you to learn how stress affects your body?

- **Reduced stress** - It helps to see how effectively the program reduced my stress.
- **Increased self-awareness** - Biofeedback/stress management program was very effective and helpful for me because I learned these: understanding of mind-body correlation through biofeedback, and realization of my stress level and how I have been dealing my stress (awareness).
- **Learning experience** - Very effective. Several examples of stressful events in my life have had a physiological expression and this program identified and explained how this process works.
- **Visual perception and Measurements** - It was effective. It helps to visualize the effects of stress on the body and measure the stress quantitatively.
- **Breathing was helpful** - Excellent! I learned to be more aware of my breathing.

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### List the skills that you learned from the program that are helping you to manage stress?

- **Breathing** – Paced breathing, breathing techniques.
- **Shift in the ways of thinking** - Better able to "think" before reacting, taking "mental vacations," thought control, positive thinking
- **Raising Awareness** – Awareness of how stress physically manifest itself and how to take time to relax, taking in the situation, Visualization.
- **Stress Reduction** – Stress recovery, identifying stressors quickly,
- **Relaxing** – Focus, taking time out to myself, breathing, relaxation techniques, focus on relaxing.
- **Alternative Choices** – Learning to prioritize rather than procrastinate, decided to do one day at a time process, reframing.

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### Other resources used

- UCLA Mindfulness Research Awareness Center <http://marc.ucla.edu/>
- UCLA Ergonomics <https://ergonomics.ucla.edu/>
- UCLA Fitwell Program <http://www.recreation.ucla.edu/fitwell>
- Dr. Erik Peper's website <https://biofeedbackhealth.org/>
- Heartmath <https://heartmath.org>
- Breathing apps: Paced Breathing (Android), BioBreathing (iphone)
- Ichill app <https://www.traumaresourceinstitute.com/ichill-app/ichill-app-1>

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Example of one of the CBT  
Homework Exercises on  
Schemas

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Questions or Comments?

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Thank you

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