



Stress Management and Biofeedback Services

COUNSELING AND PSYCHOLOGICAL SERVICES
BRIGHAM YOUNG UNIVERSITY

What is Biofeedback?

→ Any Kind of Feedback From the Body

- Biofeedback programs **MEASURE** stress indicators in the body
- Biofeedback teaches **AWARENESS** of stress and tension
- Biofeedback training can teach us to **RELEASE** tension and stress



Stress Response

→ STRESS MANAGEMENT IS LIKE LEARNING TO DRIVE

Our **stress response**, the fight/flight/freeze response, is like a **gas pedal** that revs up our mind and body in reaction to **stress** as well as danger



Our **relaxation response** is like a **brake** that we can apply to **calm down** when we are speeding out of control from stress



What Makes Stress Management So Difficult?

OUR INNER GAS PEDAL IS AUTOMATIC

- We go from 0 to 100 in an instant in response to stressors
- Our mind does not differentiate danger from stress

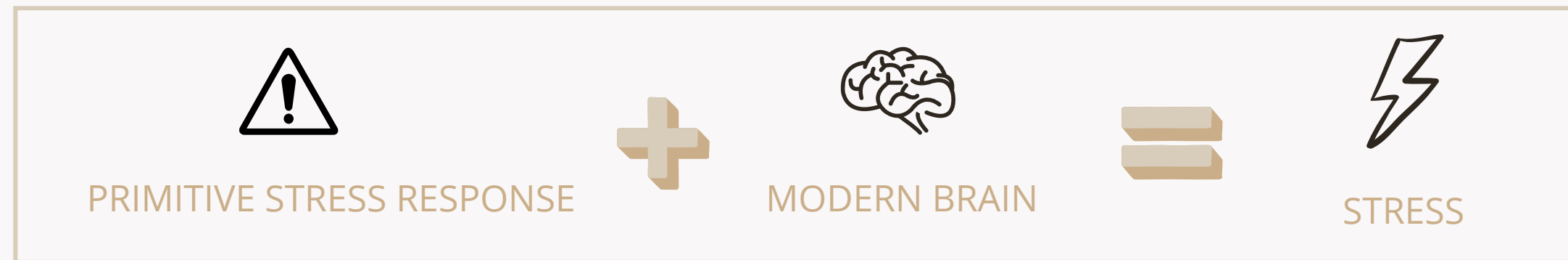


It takes **awareness** and **practice** to:

- Catch ourselves “speeding”
- Develop skills to relax “at will”
- Maintain appropriate cruising speed
- Make braking more automatic

OUR INNER BRAKE IS NOT AUTOMATIC

Stress and the Modern Student



→ The fight, flight, or freeze response becomes over-active and maladaptive in our fast-paced modern world of constant stressors



- Stress comes from our worries, fears, expectations, regrets, self-criticisms, and negative perceptions
- Our stress level is determined more by our **perception of the stressor** than the stressor itself

Chronic Stress



→ Constant Psychological stressors can keep us in Fight, Flight, or Freeze Mode

What is supposed to be a burst of energy for survival results in **chronic stress** with many **consequences for health and wellness:**

- Fatigue
- Poor Concentration
- Poor Memory
- Decrease in Performance
- Sore, Tense muscles
- Headaches
- Difficulty Sleeping
- Chronic Anxiety
- Nervousness
- Depression
- Health Problems: Stomach, Cardiovascular, Auto-Immune
- Frequent Illness
- Depressed Immune System
- Bottled-up or Erupting Emotions

Why Zebras Don't Get Ulcers

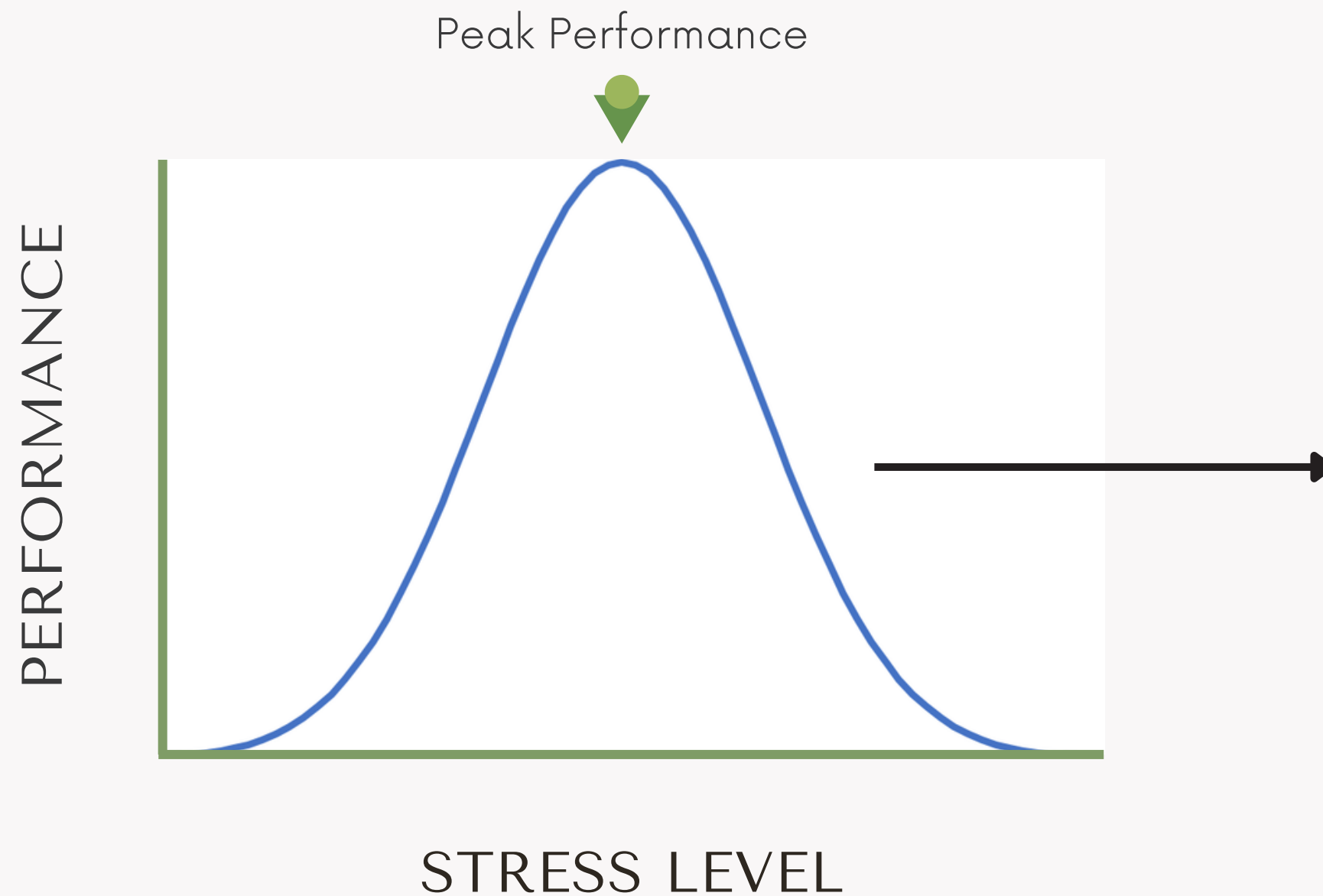
Humans usually experience chronic stress. Zebras generally experience episodic stress.



After they outrun the lion, they go back to grazing and playing.

We need to stop running when we are not being chased!

Stress and Performance



Normal Fight/Flight/Freeze Responses to Psychological Stress Overload

- Decrease in Performance
- Poor Concentration & Memory
- Anxiety, Nervousness
- Feeling Overwhelmed (freeze)
- Avoidance of Tasks (Flight)
- Giving Up (all or nothing)
- Emotions: erupt, bottled-up,
- Roller Coaster (fight or flight)
- Depression, Hopelessness

Yerkes-Dodson Principle

Robert M. Yerkes, M.D. and John D. Dodson, M.D., 1908

Stress & the Mind/Body Connection

UNSTRESSED MIND AND BODY



- **Breathing:** Smooth, calm, slow
- **Blood Pressure:** Normal cardiac flow
- **Emotions:** Manageable, calm moods
- **Heart Rate:** Steady circulation, oxygen
- **Hormones:** Regulating normally
- **Immune System:** Protecting the body
- **Mind:** Focused, clear thinking, memory
- **Muscles:** Contract as needed, then relax
- **Stomach:** Digesting normally
- **Sweat Glands:** As needed to cool off



- **Breathing:** Shallow and quick
- **Blood Pressure:** Increased cardiac output
- **Emotions:** Fear, anger, panic, nervousness
- **Heart Rate:** Speeds up to pump more blood
- **Hormones:** Adrenaline, cortisol, norepinephrine
- **Immune System:** Shuts down to save energy
- **Mind:** Instinctive, higher thinking shuts down
- **Muscles:** Tense up, ready for action
- **Stomach:** Digestion shuts down; "butterflies"
- **Sweat Glands:** More active to cool the body

STRESSED MIND AND BODY

Two Ways to Access Biofeedback Services

One-on-One Biofeedback Appointment

- Feedback from **Stress Profile** and recovery rates
- Determine personalized **optimal breaths per minute**
- Learn mindfulness strategies and **deep relaxation**
- Custom-made relaxation **recordings**
- Measurement, assessment, **training of mind and body stress factors**

Walk-In Biofeedback Hours

*The first 3 individuals are admitted each hour

- Learn **diaphragmatic breathing** (emWave)
- Class assignments
- Listen to **relaxation recordings**
- Fun interactive **biofeedback games** on individual computer stations
- Intensive **relaxation training**
- **Mindfulness**
- **Brief and deep relaxation**



How Biofeedback Can Help

Psychological Symptoms

- Excessive worry or fear
- Irritability, anger, shame
- Learning, memory
- Depression, tearfulness
- Anxiety (general/social/test)
- Concentration, forgetfulness
- Motivation, confidence
- Performance, task avoidance
- Being overwhelmed, wanting to give up, hopelessness



Physiological Symptoms

- Muscle tension
- Pain
- Panic attacks
- Poor circulation
- Chest tightness, racing heart
- cool clammy hands, trembling
- Headaches, migraines
- Jaw tension and pain, TMJ
- Sleep issues, fatigue
- Stomach issues, nausea, IBS



Start With Awareness

→ Notice the signs of stress



Mental & Emotional

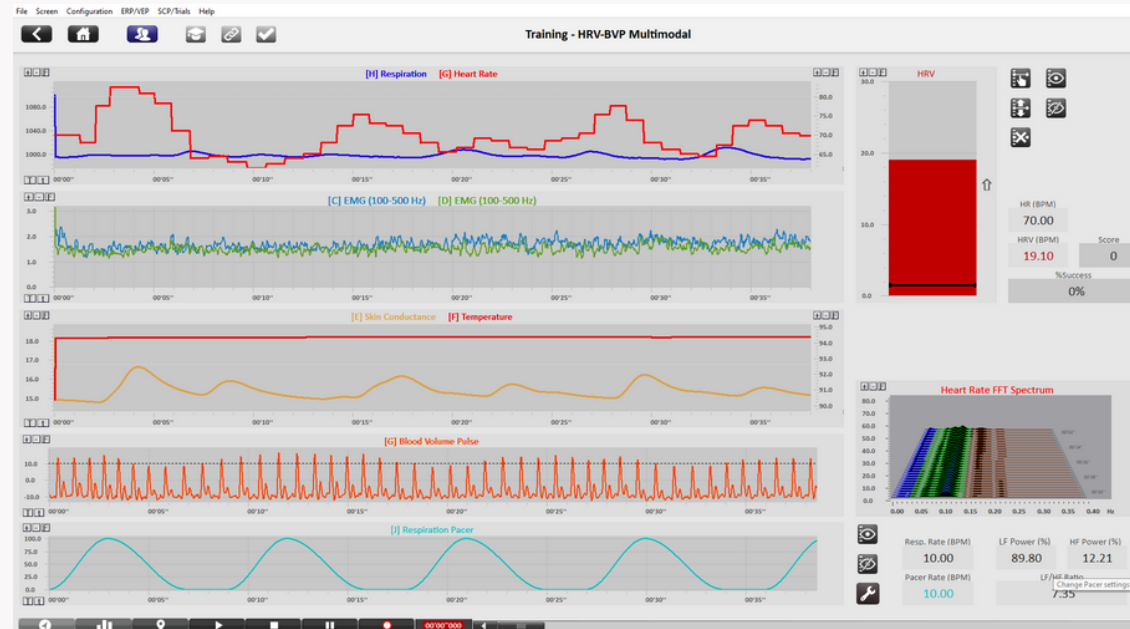
- Feeling upset, anger, irritability
- Anxiety
- Avoidance of tasks
- Feeling depressed
- Mind racing
- Feeling overwhelmed, helpless
- Poor concentration or focus

Physical

- Chest Pain or Tightness
- Cold and/or Sweaty Hands
- Muscle Tension
- Pounding Heart
- Sleep Problems
- Stomach Discomfort
- Trembling or Shaking

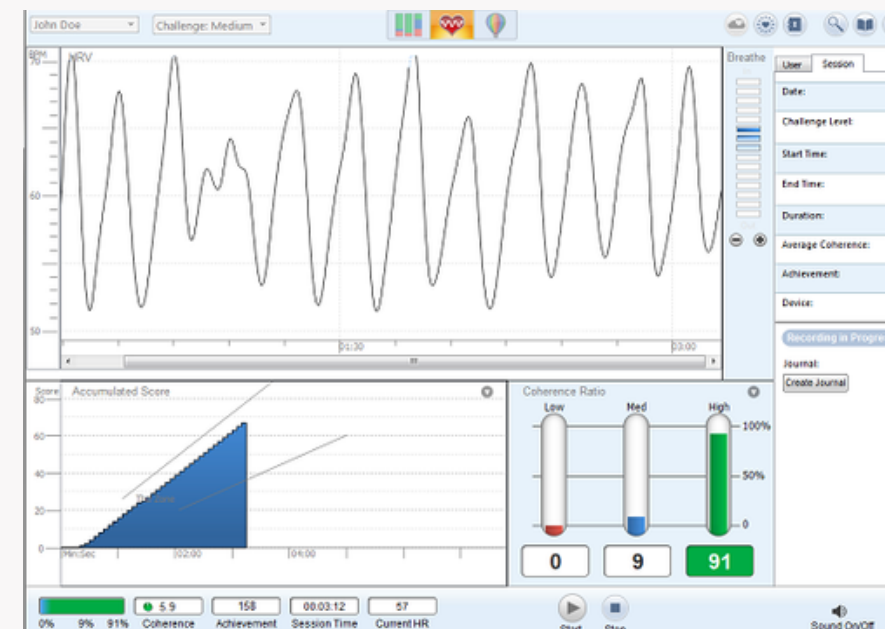


Heart Rate Variability (HRV) Training



Nexus 10

- System for measuring a variety of physiological signals simultaneously
 - Muscle tension
 - Heart rate
 - Relative blood flow
 - Skin conductance
 - Respiration
 - Temperature



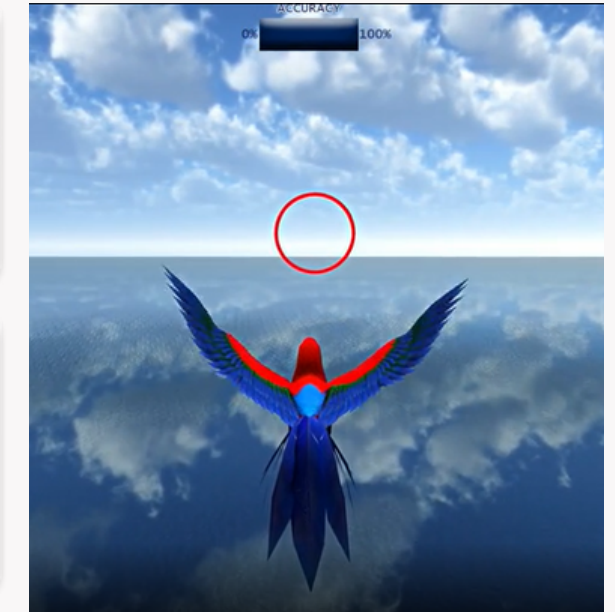
EmWave Computer Program

- Uses a simple breathing technique for:
 - immediate calming
 - improved concentration, memory, and mental clarity
 - peak performance
 - positive mental and emotional focus
- Encourages **autonomic balance or coherence** between stress and relaxation
- Learn to change your **heart rhythm/pattern**



Zukor Games

- Practice calming skills through interactive games
- Improve focus and concentration
- Increase awareness of breathing
- Develop greater coherence between stress and relaxation



Additional Biofeedback Measurements

Hand Temperature (F° or Fahrenheit)

- The stress response pumps blood to the large muscles, heart, lungs to power us up to run away or fight
- This decreases circulation to the hands and feet (makes extremities colder) and brain (poor concentration)
- Hand temperature can range from 68 ° to 98 °

Sweat Gland Activity (SC or Skin Conductance)

- Sweat glands are the most reactive indicator of stress in our body; stress causes our heart rate to increase and hormones to flood our body
- Known as the Galvanic (electric) Skin Response
- Measured as Skin Conductance or Skin Resistance

Muscle Tension (EMG or Electromyography)

- We tend to brace against stress which can decrease blood flow to our tissues
- Constant muscle tension can cause tightness, stiffness, tiredness, pain, headaches



Brief Relaxation

→ Tap the break throughout the day as needed to calm yourself when stressed

Brings you back to peak performance

- Use Techniques proactively to prevent stress overload:
 - **Slow, low breathing** every hour for a few minutes
 - Quick **body scan** to prevent tension build-up
 - **Stretch** out your neck, arms, and legs
 - Close your eyes and take a mini **mind vacation** to a relaxing place or peaceful memory
 - Use an app for a **2-minute meditation**



Once learned, any relaxation technique can be used as a brief technique!

Deep Relaxation

→ Come to a complete stop 5-10 minutes a day



- Allowing yourself to be still:
 - **Teaches skills** to more easily use brief techniques throughout the day
 - Conditions our mind and body to effortlessly **let go of tension**
 - Protects the **immune system**
 - Helps **prevent or improve stress related health problems** such as cardiac, blood pressure, IBS, etc.
 - **Improves mental health** issues

Relaxation Skills Practice

It takes only 10 Minutes a Day to learn these skills



Choose a time that fits into your routine:

Morning
Afternoon
Bedtime
Break From Studying

Effective Stress Management = Effective Braking

Whenever we notice signs of stress, especially stress overload, **it is time to put on the brake:**



- Ask for and allow help
- Balance work and play
- Breathe
- Create boundaries
- Change stress inducing thoughts to stress reducing thoughts
- Eat nutritiously
- Exercise
- Meditate and/or be mindful
- Relax
- Seek spiritual support
- Socialize and enjoy relationships with family and friends

Awareness + Practice = Effective Stress Management



How we can support you in using the
KNOWLEDGE and SKILLS
you learn here in your daily life

- Get help choosing **awareness and practice** goals
- Find **support in your goals**, progress, and stress when you return
- Become familiar with appropriate **resources**
- Experience **customized biofeedback and relaxation training** for your stress

Resources

(click on each picture to learn more)



What is Biofeedback

Presentation on stress and relaxation, how to manage stress as a student, and how to release tension from your mind and body



Make an Appointment

Call (801) 422-3035 for an individual biofeedback appointment



Importance of Breathing

Breathing is the foundational skill for regulating stress and your best defense against stress overload



Heart Rate Variability

Learn how to control your heart rate in new situations with these techniques



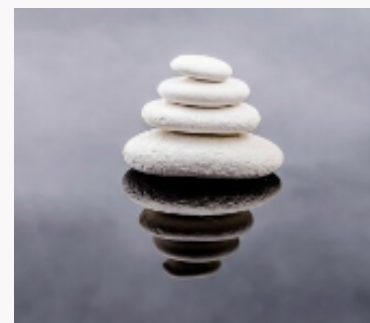
Paced Breathing

Slow your breathing to calm your mind and body



Relaxation Recordings

Try these downloadable relaxation recordings



Handouts

Help on a wide variety of stress-related issues



Spirituality and Stress

8 Spiritual steps to reduce stress



BYU COVID-19 Updates

Stay connected with BYU's latest updates on the pandemic



Meet the Team

We have counselors and assistants to assess and manage your mind and body stress



Kelly McGonigal's TED Talk

Kelly McGonigal urges us to see stress as a positive, and introduces us to an unsung mechanism for stress reduction:



Apps and Websites

Calm your mind and body through online resources



Try our Youtube Channel

Learn more about stress management and try some relaxation techniques via our YouTube channel

caps.byu.edu/biofeedback