

ACTIVITY 3.4**Heart Rate and BioDot Biofeedback Lab**

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CONCEPT

Relaxation techniques are part of behavioral strategies that may help with stress management. This is often done with progressive muscle and/or imagery relaxation coupled with deep breathing to directly modify the stress response. Relaxation is a process that decreases the effects of stress on your mind and body. When we are stressed, our body goes into “fight-or-flight” mode, and our SAM axis makes our heart rate increase. We will be measuring our heart rates to see how stress impacts our pulse.

MATERIALS

- Timer (stop watch, phone, clock)
- Biodots ([sample link here for purchase](#))
- Access to internet to play videos
- *Relaxation Training Worksheet*

INSTRUCTIONS

- This activity will take 30-45 mins to complete depending on the number of videos you choose to watch.
- Explain to the students how they will find their pulse and record their heart rate. The easiest way to do this is to find your pulse on your wrist. Using a timer, such as one on your cell phone, count how many beats you have in 15 seconds. You can multiply this number by four to get your beats/minute. A normal resting heart rate is 60-100 beats per minute.
- Biodots react to your body temperature. You will place it on the back of your hand between your thumb and index finger. The ratings on the left are intended to indicate your physical reactions to your emotional state, which is impacted by stress. For this activity, you will wear a biodot and record the color before the relaxation training, during, and after.
- Before selecting a video to watch, have the students record their heart rate and Biodot rating on their worksheet.
- Choose one of the following YouTube videos to watch after you have recorded your heart rate and color of your BioDot.
- Remember to record both of those data points during the video and after the video.
- Give students the following videos and invite them to watch two:
 - » Square Breathing: www.youtube.com/watch?v=cOOd-wIMMRg
 - » 4 x 4 Breathing: www.youtube.com/watch?v=CfUGpJE1D9o
 - » 4-7-8 Breathing: www.youtube.com/watch?v=YRPh_GaiL8s
 - » Progressive Muscle Relaxation (in 3 min): www.youtube.com/watch?v=GZ9PHsbt-m4
 - » Progressive Muscle Relaxation (in 4 minutes): www.youtube.com/watch?v=Q_diV-uqV9w
 - » Progressive Muscle Relaxation (by muscle groups): www.youtube.com/watch?v=utGa6rqzs3g
 - » Guided Imagery: Magic Carpet Ride: www.youtube.com/watch?v=80QVNBPRVXI
 - » Guided Imagery: Beach: www.youtube.com/watch?v=6TywQETck8E
 - Guided Imagery: Beach (yep, another beach trip): www.youtube.com/watch?v=y6qHVvC2rn8
 - Guided Imager: Mountain Walk: www.youtube.com/watch?v=QgstAW5p6cE

RELAXATION TRAINING WORKSHEET

Note: The Biodots will come with an answer key to help with the two far right-hand columns in these charts.

WHAT ACTIVITY YOU ARE DOING	WHAT IS YOUR PERCEIVED LEVEL OF STRESS RIGHT NOW? (LOW, MODERATE, HIGH)	HEART RATE BEATS PER MINUTE (COUNT THE BEATS/ 15 SECONDS THEN MULTIPLY BY 4)	COLOR OF THE DOT	DOES THE COLOR ACCURATELY REPRESENT YOUR STRESS LEVEL DURING THE ACTIVITY?
First time you check				
While watching relaxation video #1				
After relaxation				

WHAT ACTIVITY YOU ARE DOING	WHAT IS YOUR PERCEIVED LEVEL OF STRESS RIGHT NOW? (LOW, MODERATE, HIGH)	HEART RATE BEATS PER MINUTE (COUNT THE BEATS/ 15 SECONDS THEN MULTIPLY BY 4)	COLOR OF THE DOT	DOES THE COLOR ACCURATELY REPRESENT YOUR STRESS LEVEL DURING THE ACTIVITY?
Before the next video				
While watching relaxation video #2				
After relaxation				

Discussion Questions

What relationship did you notice between your pulse, before, during, and after the video relaxation?

What relationship did you notice between the color of the dot, before, during, and after the video relaxation?

What consistency was there between the color and/or heart rate and your activity?

Was there a difference in your perception of stress after doing this activity?

What did you learn about yourself through this activity? How could relaxation training help you, if at all?

What are some other ways to relax?