

INTERNAL AND EXTERNAL HEART RATE INFLUENCES

Name: _____ Date: _____ Ambient heart rate: _____

Your heart rate reflects constant changes in internal and external physical and emotional stress. People respond differently to stress. Learning how your heart responds to stress, which can be measured using heart rate assessments, is important and can be useful in assessing your fitness improvements. For example, watching a scary movie can increase your heart rate, but you get no fitness benefit from this cardiac response.

Heart rate can vary according to the following conditions:

- Environmental conditions (e.g., high or low temperature, humidity)
- Emotional conditions (e.g., sadness and anger are emotional stresses that cause heart rate responses, higher or lower)
- Size of muscle group being used (e.g., leg exercise elicits a lower heart rate response than arm exercise)
- Type of muscle contraction (e.g., isometric contractions, or contractions in which the muscle stays the same length, elicit higher heart rate numbers than dynamic contractions, or contractions in which the muscle shortens)
- State of hydration (e.g., with dehydration, all heart rate values are increased)
- Fatigue (e.g., heart rate response can become inconsistent with continued fatigue or overtraining)
- Training state (e.g., activity heart rates decrease with improved fitness levels)
- Nutrition (e.g., certain foods elevate heart rate; lack of food can result in lethargy and lower heart rate values)

Design your own series of self-tests or activities to measure your body's response to the preceding conditions and those in the following table.

SELF-TEST HEART RATE VARIABLES

Stressors	Pretest heart rate (bpm)	Posttest heart rate (bpm)	Change in heart rate (+ or -)	Amount of change (bpm)
Music				
Temperature				
Suspenseful story				
Food				