Cardiovascular Health in Teenagers

**Introduction**

In this report, the resting heart rate (BPM) of individuals, aged 16-17, will be measured to discover whether exercising concludes a change in an individual’s heart rate. BPM (Beats per minute) is the number of times the heart beats in a minute. WebMD (James Beckerman, 2020), states that some factors besides exercising that affect heart rate are weather; higher temperature leading to a higher heart rate, emotions; stress and anxiety increase heart rate. According to Mayo Clinic (Edward R, 2020), a lower heart rate signifies a healthier and more efficient heart function. Live Science (Bahar Gholipour, 2021) states that exercising makes the heart muscles work more efficiently because it allows the heart to pump a greater amount of blood each heartbeat.

**Hypothesis**  
Individuals (aged 16-17) who exercise will have a lower heart rate than those who do not exercise  
because exercising strengthens the heart muscles, leading to a lower but more efficient heart rate.

**Variables**  
Controlled: Age (16-17), resting state  
Independent: Amount of exercise, Gender  
Dependent: Heart rate (BPM)

**Method**

Materials: Timer (1x)  
 Paper (1-2x)  
 Pen

Method:

Get an individual aged 16-17 to tell you the amount they exercise per week. Before measuring the heart rate, instruct the individual to sit down to get their heart rate to a resting state. Once they have sat down for 4-5 minutes, instruct them to place two fingers on their wrist below their thumb. After they feel the pulse, start a 30 second timer and count the number of times the heart beats during that timeframe. Repeat two more times and find the average heart rate for accurate data.

**Results**

 