Task 1- Cardiovascular Health in Teenagers Ninna Lanuza

**Introduction:**

In this report, measuring the resting heart rate of students at the age of 15-16 and the amount of days they exercise will determine if there is an effect on an individual’s resting heart rate. According to American Heart Association (2022), heart rate is the number of times your heart beats per minute while resting heart rate is the heart pumping the lowest amount of blood you need because you’re not exercising. Cardiovascular health refers to the health of the heart and blood vessels (National Association of Chronic Disease Directors, n.d). A normal resting heart rate for teenagers is between 60-100 beats per minute. One factor that can affect heart rate is exercise. This is because our muscles require more oxygen when we exercise which results to our body requiring three to four times our normal cardiac output during activity. Exercising everyday gradually slows the resting heart rate. During exercise, our heart beats quicker to allow more blood to flow into the body, thus giving it a quicker pulse (Alberta,2022).

**Hypothesis:**

It is hypothesized that students who exercise more will have a lower heart rate than those who don’t exercise as much.

**Variables:**

Independent variable: days of exercise

Dependent variable: heart rate

Controlled variable: age, resting state

**Materials:**

* People/subjects
* Pen
* Paper
* Stopwatch/timer

**Method:**

Before the experiment, the students at the age of 15-16 took a seat and waited for their heart to come to a resting state. They then looked for their pulse by placing and lightly pressing their pointer and middle finger on their neck or on the insides of their wrist. Once they found their pulse, they started 30 seconds on the timer and counted their heart beats. When the timer ended, the students multiplied their result by 2 to find their beats per minute. They did the same procedure two more times. Then they wrote down the results for their beats per minute and calculated the average by adding the results together and dividing it by 3. After that they wrote down the amount of days they exercise.

**Table:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Resting Heart rate (beats/minute) | | |  |  |
| Subject | Exercise (days) | 1 | 2 | 3 | Average | Gender |
| 1 | 1-2 | 70 | 72 | 68 | 70 | F |
| 2 | 1-2 | 78 | 70 | 70 | 73 | F |
| 3 | 2-3 | 66 | 68 | 66 | 67 | F |
| 4 | 1-2 | 66 | 62 | 72 | 67 | F |
| 5 | 2-3 | 80 | 80 | 80 | 80 | M |
| 6 | 3-4 | 66 | 70 | 70 | 69 | M |
| 7 | 3-4 | 80 | 82 | 84 | 80 | M |
| 8 | 3-4 | 71 | 72 | 74 | 72 | M |
| 9 | 5+ | 94 | 102 | 100 | 99 | M |
| 10 | 5+ | 50 | 52 | 55 | 52 | F |
| 11 | 1-2 | 96 | 88 | 86 | 90 | F |
| 12 | 1-2 | 78 | 76 | 78 | 77 | F |
| 13 | 3-4 | 50 | 50 | 44 | 48 | F |
| 14 | 1-2 | 54 | 52 | 50 | 52 | F |
| 15 | 1-2 | 75 | 76 | 79 | 77 | M |
| 16 | 3-4 | 65 | 62 | 66 | 65 | F |
| 17 | 3-4 | 65 | 63 | 67 | 65 | M |
| 18 | 1-2 | 81 | 80 | 78 | 80 | M |
| 19 | 1-2 | 77 | 78 | 76 | 77 | F |
| 20 | 3-4 | 68 | 66 | 64 | 66 | F |

**Graph:**