Tammy Foreman

Independent Project

12/1/2023

Title: Oxygen level and Pulse Rate- Boys Vs. Girls

Purpose: To see the change in oxygen level and pulse rate before exercise, after thirty minutes of exercise, and twenty minutes of rest after exercise.

Hypothesis: I thought that the oxygen level would be lower and the pulse rate higher after exercise. After rest I thought that the oxygen levels and pulse rates would go back to normal.

Procedure:

1. Use a pulse oximeter to obtain the oxygen level and pulse rate of each participant before exercise.
2. Have each person perform different exercises for thirty minutes then recheck oxygen level and pulse rate.
3. Wait twenty minutes after exercise and check to see if there are any changes.

Results:

Participants	O2 before exercise	O2 after 30 mins of exercise	O2 20 mins after exercise
Hailey (16yrs)	98	97	98
Thomas (12yrs)	90	98	97
Emily (10yrs)	99	98	99
Lucas (5yrs)	96	96	95

Participants	PR before exercise	PR after 30 mins of exercise	PR 20 mins after exercise
Hailey (16yrs)	101	143	99
Thomas (12yrs)	98	127	111
Emily (10yrs)	81	108	101
Lucas (5yrs)	97	132	103

Statistics: A normal resting pulse rate is usually 60-100 beats per minute. For children ages 5-12 years old is 75-118 beats per minute and ages 13-18 years old is 60-100 beats per minute (information from my.clevelandclinic.org). These resting rates show that my children had normal pulse rates, my sixteen-year-old was just a beat over. For pulse rate during exercise it was difficult for me to find a standard pulse rate due to many different variables that can affect the

outcome. For oxygen levels a normal range would be 95 to 100 percent in both children and adults. All of my children were in the normal range except for Thomas. His level was at 90 to start with, however he is overweight and tends to have a lower oxygen level and usually ranges from 90 to 96.

Conclusion: My hypothesis for the pulse rates going up after exercise were correct and they started to return to normal twenty minutes after exercise. For the oxygen levels I thought that they would be lower for all participants. Only the girl's oxygen levels went down. One of the boy's oxygen went up and the other stayed the same. After twenty minutes both girl's oxygen went back to normal. For the boy's levels one started to go down and the other one's dropped by one percent. For this experiment I only based my results on boys Vs. girls and the same type and amount of exercise. Some of the exercises they did were from "Just Dance" and "Would You Rather, Fun Fitness" on YouTube. Factors that could have impacted my results would have been the age, normal activity level, wether or not they consume caffeine, or have behavioral disorders. If I were to do this experiment in the future, I would definitely consider these factors for a more in-depth experiment. I thoroughly enjoyed this project as I got to include my children in it. We all had so much fun exercising together and seeing what their results were.