



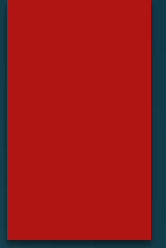
The Effects of Food and Beverages on Pulse Rate

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PROBLEM

How does Pulse Rate Respond to
Different Foods and Beverages?

RESEARCH QUESTIONS



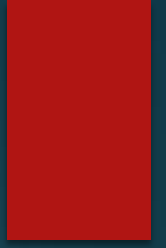
- ▶ How does sugar intake of different foods and beverages affect pulse rate?
- ▶ What constitutes a healthy diet and lifestyle?

HYPOTHESIS



- ▶ Foods and beverages with higher amounts of sugars can have larger effects, mostly negative, on the pulse rates of humans in contrast to foods and beverages with lower contents of sugar.

PROCEDURE



Step 1: Gather all necessary materials. Materials included pulse rate monitor, M&Ms, Granola Bar, Cherries, Pepsi, Water, and Orange Juice.

Step 2: Determine the consumer of the foods/beverages used in the experiment

Step 3: Take the pulse rate of the participant before they consume food or beverages.

Step 4: Have each participant consume their designated food or drink. Wait five to ten minutes.

Step 5: Take the pulse rates of each participant after they have consumed their food or beverage.

Step 6: Record the results.

PREDICTION vs. RESULTS

| Food/Beverage | Prediction | Results |
|---------------|------------|-----------|
| Water | No Change | Decrease |
| Orange Juice | Increase | Increase |
| Soda (Pepsi) | Increase | No Change |
| Cherries | Decrease | Decrease |
| Granola Bar | No Change | Decrease |
| M&Ms | Increase | Increase |

PREDICTIONS

- ▶ We predicted that water would have no change on pulse rate because there is no sugar or added concentrates. However, we were wrong. Water decreased pulse rate. The more hydrated an individual is, the more likely it is to have a slower heartbeat and pulse rate (Hubbard, 2012).
- ▶ We predicted that Orange Juice would increase pulse rate because it contains “natural sugars that will cause your blood levels to rise after drinking it” (Canaan, 2015). We were correct as Abid’s pulse rate increases.
- ▶ We predicted that chocolate would increase pulse rate as it has high amounts of caffeine. Caffeine is known to elevate heart rates which affects pulse rate as well (Bishop, 2016). We were correct as Istiak’s pulse rate increased.
- ▶ We predicted that soda would increase pulse rate because it has high amounts of sugar, especially PEPSI. PEPSI has 40 grams of sugar in one 12oz can (Pepsi, n.d.). After consuming a whole can, Madhi’s pulse rate remained the same.
- ▶ We predicted that cherries would result in a decrease of pulse rate because cherries help reduce “the risk of stroke, muscle cramping, and high blood pressure” (Benefits of Cherries, 2015). We were correct in that Kevin’s pulse rate did decrease.
- ▶ We predicted that there would be no change in pulse rate after consuming a granola bar. “Granola is an extremely popular breakfast and including its ability to lower cholesterol, regulate digestion, aid in weight loss attempts, improve your heart health, increase energy, prevent anemia and promote proper organ function” (Health Benefits of Granola, n.d.).

PULSE RATES

| Name of Consumer | Name of Item | Before Consumption | After Consumption |
|------------------|--------------|--------------------|-------------------|
| Istiak Hussain | M&Ms | 88 | 91 |
| Stacy Sooknarain | Granola Bar | 76 | 71 |
| Bakhtiar Abid | Orange Juice | 84 | 74 |
| Mahdi Choudhury | Soda(Pepsi) | 80 | 80 |
| Ms. Bellomo | Water | 134 | 84 |
| Kevin Narine | Cherries | 77 | 74 |

CONCLUSION

So how can you maintain a healthy lifestyle? The American Heart Association recommends a few tips:

- ▶ Consume nutrient-rich foods from a variety of food groups.
- ▶ Exercise on a daily basis for at-least 40 minutes a day (Aerobic exercise).
- ▶ Avoid foods high in fat/sodium content, or foods that have added sugars.
- ▶ Avoid smoking tobacco, and try to avoid inhaling second hand smoke as well.
- ▶ If you drink alcohol, drink it moderately.
- ▶ If consuming a meal, ensure that you're not eating a large portion size.

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