



Caffeine Craze

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Abstract

The purpose of the experiment was to compare and contrast the differences between energy drinks. The goal was to find out which energy drink, out of the three that were chosen, would be the healthiest to drink while still retaining its energetic effect. Not just that, but the hypothesis was that Monster would be the one to increase one's blood pressure the most out of the 3 energy drinks that were chosen. The procedures that were used were to monitor the blood pressure before drinking the caffeine, drink the caffeine and wait a certain amount of time before monitoring our blood pressure once more, then monitor our blood pressure after drinking the caffeine, and lastly drink the rest of the caffeine and repeat the process one more time. The data includes the numbers of the blood pressure and which energy drink caused it to have that effect. Before the caffeine, the blood pressures were at 112/60 (Celsius), 120/73 (Monster), and 101/62 (Nos). After half of the can, the blood pressures rose to 112/73 (Celsius), 124/86 (Monster), and 104/68 (Nos). After the whole can, the results ended with 115/87 (Celsius), 132/95 (Monster), and 110/68 (Nos). After the data results, the conclusion was that Monster raised the subject's blood pressure the most out of the 3 energy drinks, which proves the hypothesis right. The information gathered before the project had started were the nutrition facts of each individual energy drink that were chosen.



Introduction

The topic that was chosen is about caffeine and its effects on the human body. How does caffeine affect the ability to respond quicker? How does it affect the human body? How fast will it affect it? Those questions are the purpose for the project. The project focuses on the effects different energy drink brands have on the human body and how fast they affect it.

Problem

In society, energy drinks are seen as a way to escape sleep and keep one awake in times of need. However, these high caffeine beverages can lead to high blood pressure and other symptoms that can harm the human body. When someone needs a beverage to wake them up, which energy drink causes the lowest blood pressure and the safest to drink?

Purpose

The purpose is to figure out which energy drink out of three brands (Nos, Celsius, and Monster) has the worst effect and the best effect on the human body. The main priority of our goal is to find out which energy drink contains the most amount of caffeine, and which one has a stronger kick to it. All in all, we are testing caffeine beverages and checking out which one will have the most impact on human blood pressure. The idea being tested is that Monster is going to have the most negative effect on the human body, while Celsius has the best effect.

Hypothesis

Out of a Celsius, Nos, and a Monster, the monster energy drink is the beverage that will increase the blood pressure of the human body the most.

Background Information

Caffeine is a natural plant alkaloid that stimulates the central nervous system, and its structure is a purine alkaloid that resembles adenosine, which it blocks in the brain to reduce fatigue. However, excessive or concentrated caffeine can be dangerous and can lead to a range of issues from anxiety and digestive problems to serious cardiovascular and neurological complications. The experimentation will test which brands of energy drinks have the most impact in a person's blood pressure. Through the results we will see which brand of energy drink is the most harmful and healthiest to the body.



Procedures

Materials:

- Nos
- Monster
- Celsius
- Blood Pressure Monitor

Procedure:

- 1.) Measured blood pressure before drinking the caffeine.
- 2.) Had 3 different people drink their designated drink.
- 3.) Wait around 10-20 minutes until the caffeine takes effect.
- 4.) Recorded two more trials: one during the drink settles and one after.
- 5.) Recorded the second trial 10 minutes before the energy drink fully settles in.
- 6.) Let the caffeine take effect for 10 more minutes.
- 7.) Recorded third trial.
- 8.) Compared the tests between all 3 trials and 3 energy drinks.
- 9.) Decided which energy drink is the healthiest and which one is the unhealthiest.

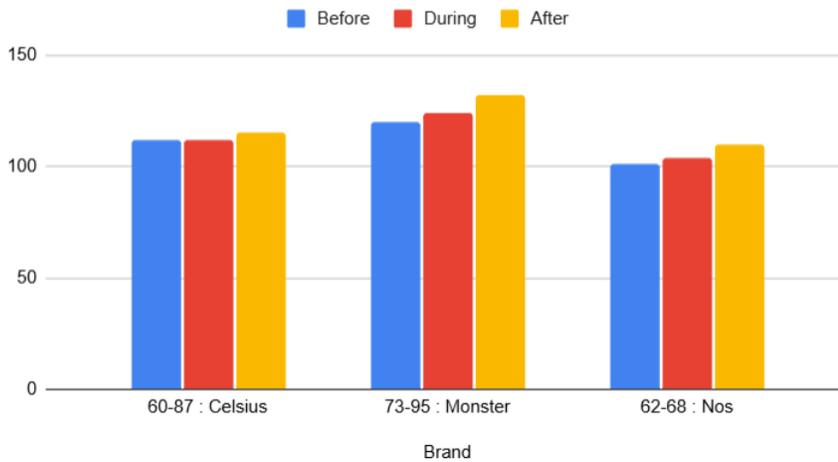
Data Analysis

Data Table

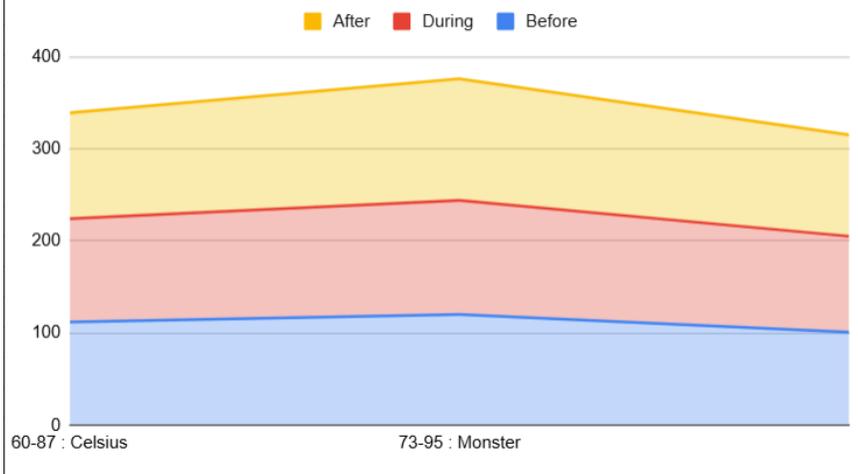
	<u>Caffeine Craze</u>	<u>Blood Pressure</u>	
<u>Brands</u>	<u>Before</u>	<u>During</u>	<u>After</u>
Celsius	112/60	112/73	115/87
Monster	120/73	124/86	132/95
Nos	101/62	104/68	110/68

Graphs

Caffeine Craze - Blood Pressure



Blood Pressure



Results

The blood pressures changed at first, but not drastically. They increased by a small amount, except for one specific drink. Just with half the can, Monster energy drink produced the most change at half the bottle. Afterwards, once all of the energy drinks were fully consumed, the most change out of all of the drinks was Monster, followed by Nos, and lastly Celsius, with Celsius being the healthiest option and having the least amount of change.

Conclusion

"What brand of energy drinks raises blood pressure the most?" The energy drink that raised the blood pressure the most was the Monster energy drink. Subject A tested the Monster brand and their blood pressure before consuming the substance was stable. After drinking half of the can and waiting 20 minutes, the blood pressure went from 120/73 to 124/86. Subject A finished the can and waited another 10 minutes, and blood pressure changed drastically. It went from 124/86 to 132/95. On the other hand, Nos and Celsius had the least impact on blood pressure. The Nos brand was tested by Subject B and their blood pressure before was 101/62. After finishing half of the drink and 20 minutes had passed, the blood pressure changed to 104/68. When Subject B finished the drink and waited 10 more minutes the blood pressure changed to 110/68. Lastly, Subject C tested the Celsius brand, and their blood pressure beforehand was 112/60. Once half of the Celsius drink was consumed and 20 minutes of time had passed, their blood pressure rose to 112/73, which is not a significant difference. After the drink was finished, the final blood pressure of Subject C was 115/87, concluding our research. The Monster energy drink is the least healthiest with it increasing the blood pressure of a person the most, while Celsius is the healthiest to consume with it having little to no change in blood pressure.

A real-life connection to energy drinks is that when a student is staying up late at night doing assignments, they would drink caffeine to help them maintain their energy. Our research would help the student decide which energy drink is the best to consume with it having the best nutrition facts while keeping its same effect. The energy drink to do just that is Celsius. Future benefits that energy drinks create are the flow of the economy. Since there are countless people who stay up doing late assignments or tasks, energy drinks are typically the second option right behind coffee. These energy drinks, mainly popular with young people, keep the flow of the economy going, ensuring that the brands selling the caffeinated drinks don't go bankrupt. Finally, a suggestion for further research would be to test out other brands and their effects, and compare the results that energy drinks have to that of the effect coffee has. A further question to ask what symptoms does the individual feel after consuming the energy the drink. If the project is repeated in the future we would change the quantity of energy drinks consumed. Also, wait more time so that the energy drinks have a bigger impact in the body and see if the results change drastically.

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