The Effects of Veganism on Endurance Running Performance

Ishwin, Wesley, Kristle, Natasha, Caesar

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Introduction

With the growing interest in veganism and its potential health benefits to athletes, it is imperative to consider whether dietary practices could influence athletic performance. While many vegan endurance athletes have proven successful while adhering to their diet, there is little research and concrete evidence to prove that a vegan diet is indeed superior to an omnivore diet in terms of endurance.

Purpose of Research

> To provide an analysis on the prevalence of vegan diet in endurance runners
> Comparative study of the effects of diet on performance in endurance events between both omnivores & vegans
> Examine the positive and negative health effects of veganism on endurance running performance
> Help current and future endurance athletes to make better decisions when deciding whether to follow a vegan diet.

Methodology

200 volunteers will participate in a cross-sectional online survey where data such as age, lifestyle, BMI etc are taken. They will undergo an experiment where they will follow a controlled training diet program. For phase one (Test 1) of the study, all 200 omnivore participants consisting of 100 males and 100 females will be put on a 4 weeks controlled training program following an omnivorous diet. Performance will be measured based on VO2 max and marathon timing. Thereafter, 100 participants consisting of 50 males and 50 females on a voluntary basis, will be selected to adhere to a vegan diet for 4 weeks for phase 2, and the other half will continue an omnivorous diet. At the end of the 4 weeks, participants’ VO2 Max will be tested and their 42 km marathon timings will be taken for the second time. All results from phase 2 will then be compared to the results collected in phase one. Improvements in performance will then be recorded for comparison between the two dietary groups.

Data Analysis

The key independent variable for this study is the type of diet- vegan or omnivorous diet. In the experiment, the control (omnivore) group will continue to follow an omnivorous diet whereas the treatment (vegan) group will change from omnivorous to a vegan diet. Other control variables which could affect performance are also considered which are BMI, age, gender, ethnicity, lifestyle, average sleep hour, training frequency, alcohol consumption, humidity and surrounding temperature.

Regression analysis will be used to determine which specific variables have a significant impact on the runners’ performance, and whether the impacts are positive or negative, big or small. The equation is as shown above. The primary objective of our research is to find out whether there is a difference in endurance running performance between vegans and omnivores. Hence, T-test analysis will be used to determine if there is a significant difference between the means of the two groups. From the T-test, if the result is statistically significant, the conclusion would be that veganism has a significant impact on the performance of endurance runners and vice versa.

Conclusion

Since this is a research proposal and the experiment will be conducted in the future, there has been no conclusive evidence so far that proves the impact of veganism on endurance running performance. However, after the experiments are conducted, the results will be shared with dieticians and coaches to reduce the duration of trial and error when finding the best nutrition plan for their athletes. Through this research, we aim to help current and future athletes to make more informed decisions on their diet plan and whether it will indeed be beneficial to their athletic performance. This study can provide further clarity and basis for future studies and exploration of related topics.