

Plant Powered: A Study on College Athletes and Plant-based Diets

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Introduction

- College athletes are increasingly interested in following plant-based diets. Research has largely focused on the health benefits of a plant-based diet and has recently shifted to analyzing the benefits for athletic performance.
- With the new shift towards athletic performance, benefits such as increased lean body mass, increased blood viscosity and tissue oxygenation, along with decreased oxidative stress and inflammation have been reported (Clem & Barthel, 2021).
- A challenge posed by existing research on plant-based diets is how they are defined. The term “plant-based” has become an umbrella term that encompasses several diets, such as vegetarian, vegan, lacto-ovo-vegetarian, lacto-vegetarian, ovo-vegetarian, and whole plant-based diet, where no animal meat is consumed. Additionally, there are plant-based diets such as pescatarian, semi-vegetarian or flexitarian, and the Mediterranean diet, where animal meat is minimally consumed.

- Such inconsistency in how plant-based diets are defined is providing athletes with a skewed perception about what it means to follow a plant-based diet, what benefits have been found, and what guidelines should be followed.

Purpose

- To provide insights into college athletes' perceptions of plant-based diets while addressing their current knowledge and what education tools they are seeking

Materials and Methods

Participants

- College athletes at least 18 years of age

Survey

- Utilized Qualtrics
- Included 46 questions
- Survey sections:
 - Athlete's information
 - Perception and attitudes
 - Knowledge
 - Practices
 - Behavior change and adoption
 - Education
 - Demographics

Procedures

- Approved by Concordia College Institutional Review Board
- Survey link sent to intended audience on December 4th, 2023 via social media (Instagram & Facebook) and email to college athletic directors
- Survey collection period ended on December 22nd, 2023

Analysis

- Utilized SPSS
- Descriptive statistics and chi-square tests

Research Goals and Objectives

- To comprehend athletes' current knowledge of the components of a plant-based diet
 - To determine the degree of knowledge athletes possess about a plant-based lifestyle approach
- To investigate athletes' current perceptions of the components of a plant-based diet
 - To determine the top three most common perceptions athletes currently have about plant-based diets
- To explore what types of educational resources athletes are interested in utilizing
 - To determine the top three educational resources in which athletes are interested
- To analyze the characteristics of athletes who are willing to adopt plant-based diets
 - To determine the top three characteristics of athletes who are most likely to adopt a plant-based diet
- To understand what barriers are limiting behavior change in athletes
 - To determine the top three barriers affecting behavior change in athletes looking to adopt plant-based diets
- To explore why athletes are already following a plant-based diet
 - To identify the top three factors influencing athletes who are currently following a plant-based diet

Results

Demographics

- 131 total responses; 82 excluded due to incomplete responses; 49 athletes in final sample (0.70% total response rate)
- 24% male; 74% female; 2% non-binary
- 94% White; 2% American Indian/Alaskan Native; 4% Other

Knowledge of Plant-based Diets

- Total mean score on knowledge-based questions was 65%
 - 98% of athletes were knowledgeable about foods to consume on a vegan diet
 - 8% of athletes were knowledgeable about foods to consume on a plant-based diet

Perceptions of Plant-based Diets

- 65% of athletes believed plant-based meats are more expensive than animal-based meats
- 67% of athletes believed plant-based meats have less taste than animal-based meats
- 45% of athletes believed consuming processed plant-based meats is not appropriate while 55% of them believed it was

Educational Resources of Interest

- Top three preferred forms of education were activity-based lessons (55%), infographics (55%) and lecture format (51%)
- The average amount that athletes were willing to pay for plant-based education was \$19.

Characteristics of Athletes Willing to Adopt Plant-based Diets

- Athletes who commonly consume plant-based products were more likely to adopt a plant-based diet for longer durations (Pearson χ^2 (24, N=49)=41.652, p=.014)

Figure 1

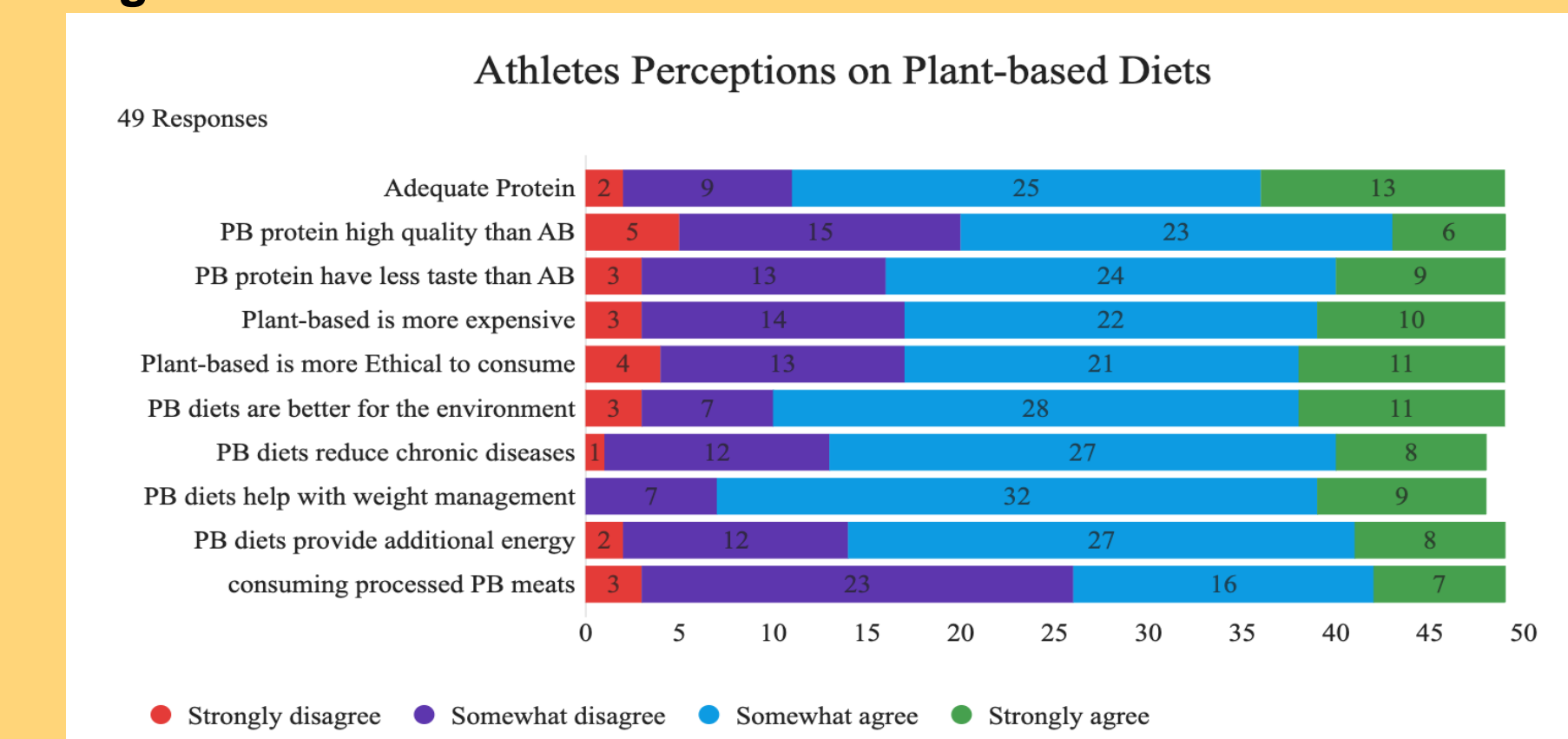
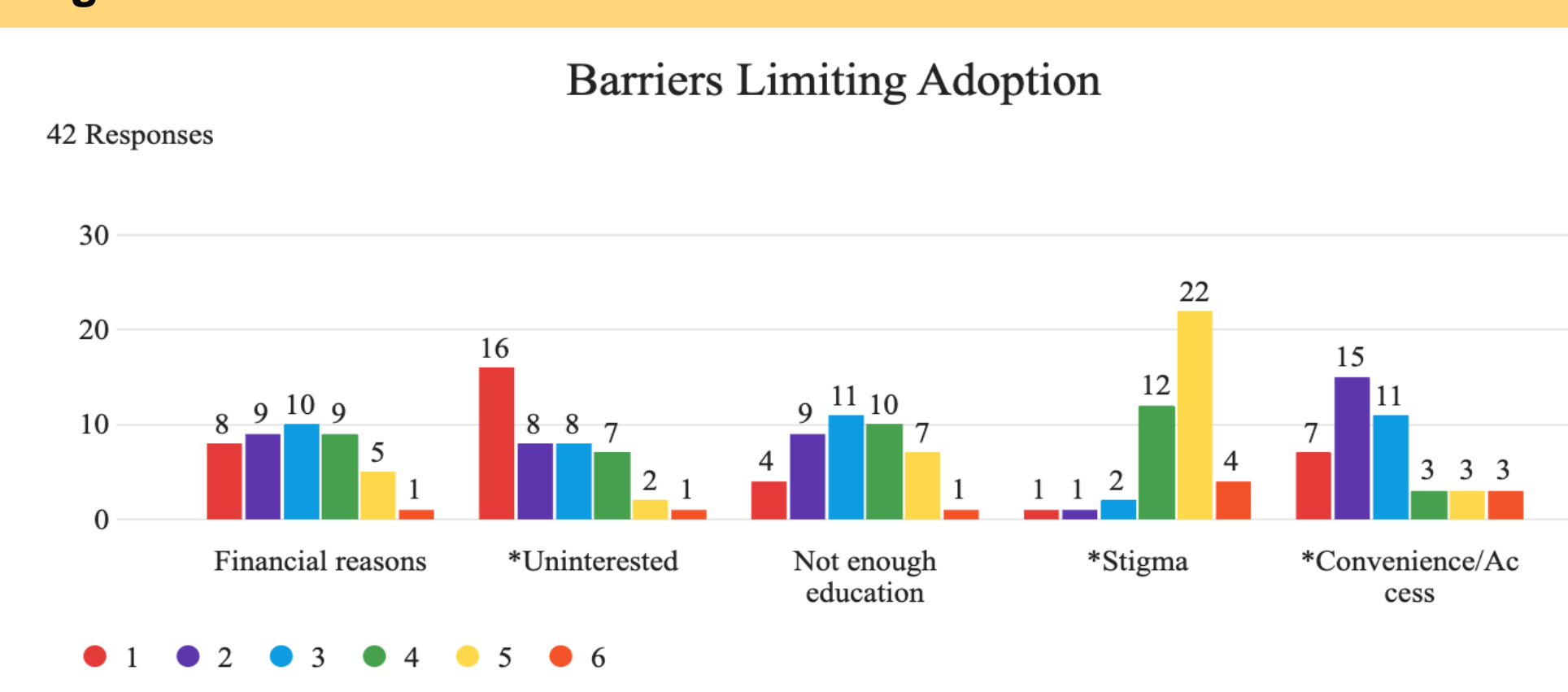
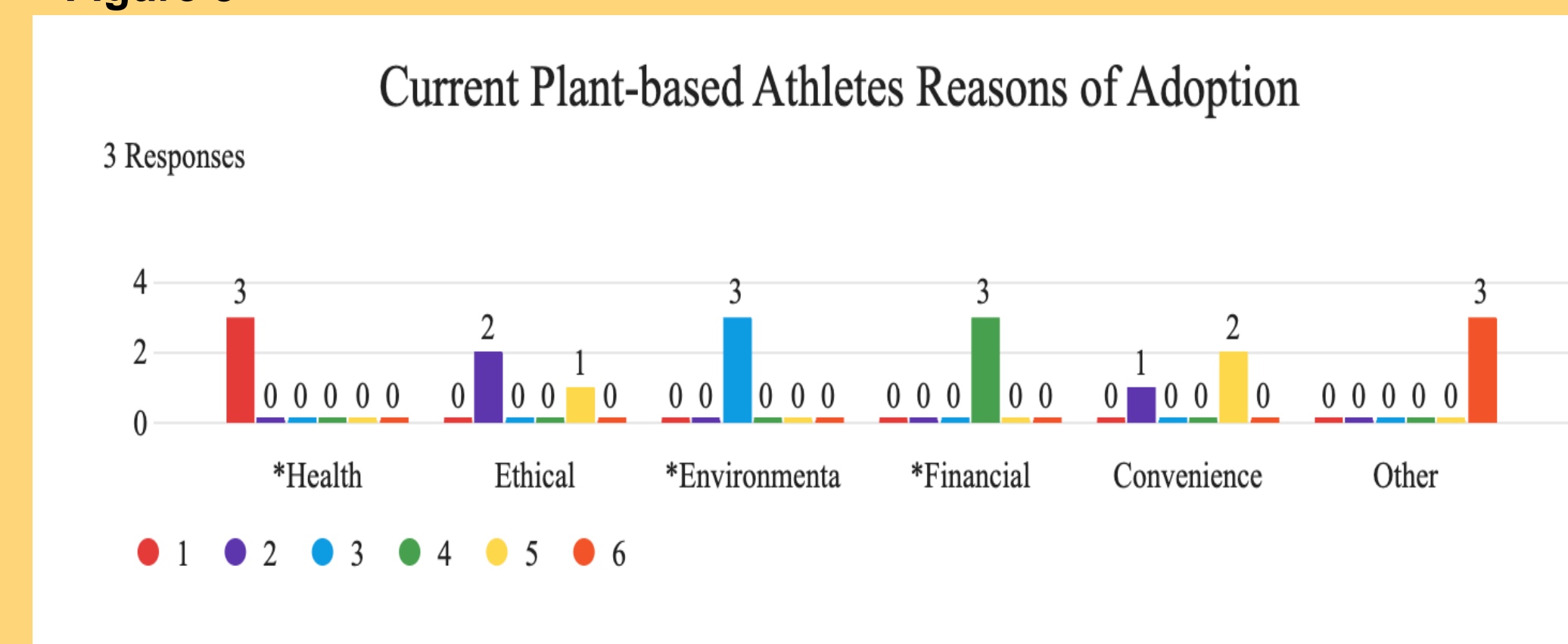


Figure 2



Note: *Indicates significance

Figure 3



Note: *Indicates significance

Discussion

- Athletes possessed a high degree of knowledge about plant-based diets that exclude meat, such as the vegan and vegetarian diet, but were not knowledgeable about plant-based diets that allow for some meat consumption, such as the flexitarian and Mediterranean diet
- Male and female athletes' perceptions around plant-based diets were similar when addressing obtainable nutrients even though past research shows that females having stronger perceptions around nutrients, due to males' fascination with animal-based meat (Michel, Hartmann, & Siegrist, 2021)
- Athletes who consumed plant-based products more often were more likely to consider adopting a plant-based diet for longer periods

Conclusions

A nutrition intervention is needed to educate college athletes on a modern plant-based diet. The intervention should be in-person and tailored towards aerobic and anaerobic athletes following certain dietary patterns. Emphasis should be on discussing current perceptions, how to overcome barriers to adopting, and the health and performance benefits associated with, plant-based diets.

References

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For further information

Please contact Ryan Farley at rfarley@cord.edu with questions, comments, or suggestions