American Research Journal of
Sports Medicine

ARJ PUBLISHING
Inspiring Research. Shaping Futures

Review Article

Rethinking Nutritional Assessment in Competitive Sports: A Framework for Evaluating Athletes' Dietary Patterns

Stefani Brock[1*], Michael Engelstein[2]

[1]Stadium Sports Medicine Center, University of Washington, Seattle, Washington, USA.
[2]Department of Physical Therapy, University of Delaware, Newark, Delaware, USA.

Correspondence to: Stefani Brock, Stadium Sports Medicine Center, University of Washington, Seattle, Washington, USA.

Publication Information: Accepted: Feb 10, 2026**, Published:** Feb 18, 2026

Citation: Brock S, et al. Rethinking Nutritional Assessment in Competitive Sports: A Framework for Evaluating Athletes' Dietary Patterns. American Research Journal of Sports Medicine, Vol 1, no. 1, 2026: pp.

Copyright © 2026 Brock S, et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

Dietary quality is an important determinant of nutritional health and may influence athletic performance, recovery, and long-term physical well-being. Dietary Quality Indices (DQIs) provide a structured approach to evaluating food consumption patterns against established nutritional recommendations. However, most existing indices were designed for the general population and may not adequately represent the nutritional requirements of athletes. This review examines established dietary quality assessment methods, evaluates the application of the Healthy Eating Index (HEI) in sports nutrition, and discusses the development of athlete-specific assessment approaches. Existing evidence indicates that the Athlete Diet Index (ADI) represents an important development in this field, although further validation is required to establish its broader applicability. The HEI offers a useful foundation because of its established scoring framework and extensive evaluation in general populations. Nevertheless, modifications involving energy availability, macronutrient intake, hydration, nutrient timing, and recovery-related dietary practices may improve its relevance to athletes. An appropriately validated athlete-specific DQI could strengthen nutritional assessment, support individualized dietary interventions, and improve the consistency of sports nutrition research.

Keywords: Athlete Nutrition; Dietary Quality Index; Healthy Eating Index; Athlete Diet Index; Sports Nutrition; Nutritional Assessment; Athletic Performance.

INTRODUCTION

Dietary quality describes the extent to which an individual's food consumption pattern corresponds with established nutritional recommendations. It considers the composition of the diet rather than examining individual nutrients in isolation. This approach provides a broader understanding of nutritional adequacy and allows researchers to examine relationships between dietary patterns and health outcomes [1].

Dietary Quality Indices have been developed to translate nutritional recommendations into measurable assessment systems. These tools generally evaluate food groups, nutrient consumption, or combinations of dietary characteristics. Their application allows nutritional information to be summarized into scores that can be interpreted at individual and population levels [2].

Previous research has established several dietary quality assessment methods, including the Healthy Eating Index, Healthy Diet Indicator, Mediterranean Diet Score, and Diet Quality Index. These instruments have contributed to the evaluation of dietary patterns and their associations with chronic disease risk and nutritional adequacy. However, their original development primarily addressed the nutritional requirements of the general population rather than individuals undertaking regular athletic training [3].

Dietary requirements differ between athletes and non-athletes because training volume, exercise intensity, recovery demands, and competition schedules influence nutritional needs. Athletes require adequate energy and nutrient intake to maintain physiological function, support

training adaptations, preserve muscle tissue, and facilitate recovery. Consequently, a dietary assessment system intended for this population should incorporate both general health recommendations and performance-related nutritional requirements [4].

Sports nutrition recommendations are therefore broader than conventional dietary guidelines. They include energy availability, carbohydrate and protein requirements, fluid replacement, electrolyte balance, nutrient timing, and appropriate recovery nutrition. These factors may vary according to the type of sport, training intensity, competition schedule, and individual physiological characteristics [5].

The development of an athlete-specific DQI could provide a practical approach to evaluating these nutritional requirements. Although general dietary indices offer an established foundation, their scoring systems may not adequately distinguish between dietary practices that support athletic performance and those primarily intended to reduce chronic disease risk. The present review examines existing dietary quality assessment methods, evaluates the application of the HEI in athletic populations, and identifies modifications that may support the development of a more appropriate athlete-specific assessment framework [6].

LITERATURE REVIEW

Concept and Assessment of Dietary Quality

Dietary quality encompasses the nutritional characteristics of an individual's usual eating pattern. It includes food variety, nutrient density, dietary balance, and the consumption of foods associated with positive or negative health outcomes. The concept has developed beyond simple classifications of healthy and unhealthy foods, incorporating measurable indicators of dietary adequacy and nutritional balance [7].

High-quality dietary patterns generally provide sufficient essential nutrients, appropriate energy, and a variety of foods that support physiological requirements. Food composition, preparation practices, dietary diversity, and food safety also contribute to the nutritional value of the diet [8]. DQIs translate these characteristics into structured scoring systems. Depending on their design, they may assess food-group consumption, nutrient intake, dietary recommendations, or combinations of these factors. Their usefulness depends on the suitability of the selected dietary criteria, the accuracy of dietary information, and the reliability of the scoring procedure.

Existing Dietary Quality Indices

Several dietary quality assessment instruments have been developed to evaluate nutritional patterns in different populations. The Healthy Eating Index measures adherence to national dietary guidelines, while other indices assess dietary diversity, Mediterranean dietary characteristics, and the consumption of recommended food groups. Reviews of established dietary quality tools have identified considerable variation in their components, scoring procedures, and validation methods. Although many indices demonstrate relationships with health indicators, their ability to predict individual health outcomes varies. Their application in athletic populations has also remained limited compared with their use in general population research [9].

The Healthy Eating Index, Diet Quality Index, Healthy Diet Indicator, and Mediterranean Diet Score are among the established instruments used in dietary research. The selection of an appropriate index depends on its intended purpose, population characteristics, dietary recommendations, and available validation evidence [10].

Classification of Athletes

The nutritional assessment of athletes requires an appropriate understanding of athletic participation and training characteristics. Individuals involved in organized competitive sports may have substantially different nutritional requirements from recreationally active individuals. Athletes can be categorized according to training volume, competitive level, exercise intensity, and performance objectives. Competitive participation and systematic training are commonly used to distinguish athletes from individuals who exercise primarily for general fitness [11].

However, restrictive definitions may exclude physically active individuals who also experience increased nutritional demands. A broader classification system can incorporate recreational athletes, competitive athletes, elite athletes, and physically active individuals according to their participation patterns and training commitments [12]. A practical classification framework should consider exercise frequency, weekly training duration, competition level, and performance objectives. These characteristics can help determine which nutritional recommendations are most appropriate for each participant (Table 1).

 © 2026 Brock S

Table 1: Comparison of Dietary Recommendations for General Population and Athletes.

Nutritional component	General population	Athletic population
Energy	Based on daily energy requirements	Adjusted according to training load and recovery
Carbohydrates	Based on general dietary requirements	Adjusted according to exercise intensity and duration
Protein	Supports normal tissue maintenance	Supports muscle repair and training adaptation
Dietary fat	Emphasis on healthy fat sources	Supports energy requirements and essential fatty acid intake
Vitamins and minerals	Supports normal physiological function	Supports physiological function under increased training demands
Hydration	Maintains normal fluid balance	Adjusted according to sweat losses and exercise conditions
Sodium	General population recommendations	Individualized according to sweat and electrolyte losses
Nutrient timing	General meal distribution	Includes pre-, during-, and post-exercise nutrition

Nutritional Requirements of Athletes

General dietary guidelines provide an important foundation for sports nutrition. Nevertheless, athletes frequently require adjustments in energy and nutrient intake to accommodate training demands and physiological adaptation. Carbohydrates provide an important energy source during moderate- and high-intensity exercise. Appropriate carbohydrate availability supports training quality, maintains glycogen stores, and contributes to recovery. Protein intake is equally important because it supports muscle protein synthesis, tissue repair, and adaptation to resistance and endurance training.

Fat contributes to energy requirements, essential fatty acid intake, and the absorption of fat-soluble vitamins. Athletes also require sufficient micronutrients, including iron, calcium, vitamin D, and other minerals involved in oxygen transport, bone metabolism, and muscle function [13]. Athlete classification systems can further improve the interpretation of nutritional requirements. Training experience, competitive standard, and performance level provide useful information when selecting dietary recommendations and evaluating nutritional adequacy [14].

The classification of athletic participation into different performance levels also provides a framework for distinguishing recreational exercise from structured competitive training. This distinction is relevant when developing dietary assessment criteria for populations with different energy and recovery requirements [15].

Athlete-Specific Dietary Quality Indices

The Athlete Diet Index was developed to provide a more practical method of evaluating dietary quality among athletes. Its development involved identifying relevant dietary components, reviewing existing nutritional assessment methods, and obtaining input from sports nutrition professionals. The initial framework incorporated usual food consumption, dietary habits, fluid intake, food variety, training characteristics, and nutritional practices. These components were intended to provide a broader assessment of athlete nutrition than conventional food-group-based indices.

The development of the ADI represented an important step towards athlete-specific dietary assessment. However, the initial instrument required further evaluation of its scoring procedures, reproducibility, and validity before it could be applied confidently across different athletic populations [16]. Sports nutrition recommendations also provide a foundation for evaluating carbohydrate consumption, energy requirements, and nutritional strategies surrounding exercise. These factors should be incorporated into assessment methods intended to reflect athletic dietary practices [17].

The nutritional requirements of athletes differ according to training demands and recovery needs. Therefore, dietary assessment should evaluate both the adequacy of nutrient consumption and the suitability of dietary practices in relation to physical activity [18].

Protein intake represents another important component

 © 2026 Brock S

of dietary quality. Adequate consumption supports muscle maintenance, tissue repair, and adaptation to exercise. Assessment methods should therefore evaluate protein intake in relation to individual requirements rather than relying exclusively on general population recommendations [19] (Table 2).

Table 2: Proposed Modifications to the Healthy Eating Index for Athlete Assessment.

HEI component	Proposed approach for athlete assessment
Total fruit	Retain as an adequacy component
Whole fruit	Retain as an adequacy component
Total vegetables	Retain as an adequacy component
Greens and beans	Retain as an adequacy component
Whole grains	Retain, with consideration of exercise timing
Dairy	Retain and recognize suitable alternatives
Total protein foods	Evaluate according to athlete-specific requirements
Seafood and plant proteins	Retain and assess dietary variety
Fatty acids	Retain and evaluate dietary fat quality
Refined grains	Adjust scoring to recognize appropriate exercise fueling
Sodium	Evaluate individual electrolyte requirements
Added sugars	Distinguish routine intake from exercise-related carbohydrate fueling
Saturated fats	Retain as a moderation component
Hydration	Introduce an additional component
Energy availability	Introduce an additional component
Macronutrient adequacy	Introduce an additional component
Nutrient timing	Introduce a dietary behaviour component
Alcohol consumption	Introduce a moderation component

Healthy Eating Index as an Assessment Framework

The Healthy Eating Index provides a standardized approach to measuring adherence to dietary guidelines. Its scoring system incorporates adequacy and moderation components, allowing dietary quality to be evaluated through multiple food groups and nutritional characteristics. The HEI includes 13 components. Nine assess dietary adequacy, including fruit, vegetables, whole grains, dairy, protein foods, seafood, plant proteins, and fatty acid balance. Four moderation components evaluate refined grains, sodium, added sugars, and saturated fat [20].

Protein recommendations for physically active individuals may differ from general dietary requirements because exercise increases the need for tissue repair and adaptation. Consequently, an athlete-specific assessment should evaluate protein intake according to training characteristics and physiological demands [21]. Research involving athletes has demonstrated the usefulness of the ADI for screening dietary practices and identifying areas requiring nutritional intervention. However, broader validation across different sports, countries, and competitive levels remains necessary [22]. The assessment of dietary quality has also expanded to include fatty acid intake and food sources of essential nutrients. Seafood and plant-based foods can contribute to dietary fatty acid adequacy and support a balanced nutritional pattern [23]. Athletes also require adequate vitamins and minerals to maintain physiological function during regular training. Micronutrients involved in oxygen transport, energy metabolism, bone health, and muscle function should therefore be included in comprehensive nutritional assessment [24].

Hydration is another important factor in sports nutrition. Fluid requirements vary according to exercise duration, environmental conditions, sweat rate, and individual physiological characteristics. Dietary assessment should therefore incorporate hydration practices rather than relying exclusively on general daily fluid recommendations [25]. Alcohol consumption may also influence recovery, sleep, hydration, and exercise-related physiological responses. Its inclusion as a moderation component could improve the comprehensiveness of an athlete-specific dietary assessment [26].

 © 2026 Brock S

DISCUSSION

Evaluation of the Athlete Diet Index

The ADI represents an important development in dietary assessment because it was designed specifically for athletes. Its framework incorporates dietary habits, food variety, fluid consumption, training characteristics, and other nutritional practices relevant to athletic participation.

The validation process compared ADI scores with dietary records and examined test–retest reliability. The reported findings indicated moderate relative validity and good reliability, suggesting that the instrument could provide useful information about athlete dietary quality. Nevertheless, additional studies are required to establish its criterion validity and its relationship with health and performance outcomes [27]. Subsequent application of the ADI in elite Australian athletes demonstrated its potential for identifying nutritional issues and supporting sports dietitian practice. Feedback from practitioners indicated that the instrument could assist with athlete screening and the identification of areas requiring dietary support [28].

Research examining dietary quality among collegiate athletes has also demonstrated the usefulness of general dietary assessment tools. However, findings indicate that dietary quality may vary across sports and that general population scoring systems do not necessarily capture every aspect of athlete nutrition [29]. Studies involving team-sport athletes have similarly highlighted the importance of evaluating food consumption patterns rather than focusing exclusively on isolated nutrient values. These findings support the use of structured dietary assessment methods in sports nutrition research [30].

Research involving para-athletes has further demonstrated the application of dietary quality indices in populations with different sporting and physiological characteristics. However, the selection of dietary recommendations should reflect the needs and circumstances of the population being assessed [31]. Studies examining collegiate athletic populations have also used the Healthy Eating Index to evaluate dietary patterns. These investigations demonstrate the potential application of HEI-based methods while highlighting the need for further population-specific validation [32].

Relationship Between Dietary Quality and Athletic Health

The relationship between dietary quality and athletic health requires evaluation across several physiological outcomes. Body composition, bone mineral density, recovery, and oxidative stress are relevant indicators when examining the potential effects of dietary patterns. Research involving female collegiate athletes has examined the relationship between HEI scores, dietary inflammatory characteristics, and body composition. The findings did not demonstrate significant associations between these dietary scores and body composition measurements, indicating that general dietary quality scores may not adequately represent all athlete-related health outcomes [33].

Research involving adolescent volleyball athletes has also examined dietary quality in relation to oxidative stress. The findings did not establish a significant relationship between HEI scores and oxidative stress indicators. These observations highlight the limitations of drawing direct conclusions about athletic health from general dietary quality scores alone [34].

A broader review of dietary quality assessment among adult athletes identified substantial variation in the tools and dietary assessment methods used across studies. The findings reinforced the need for consistent assessment procedures and instruments that reflect the nutritional requirements of athletic populations [35].

Fruits and Vegetables

Fruits and vegetables provide vitamins, minerals, dietary fibre, and bioactive compounds that contribute to normal physiological function. Their consumption supports micronutrient adequacy and provides a range of antioxidant compounds. For athletes, these foods may contribute to recovery and general health through their nutritional composition. Fruits and vegetables also provide dietary nitrates and polyphenols, which have been investigated in relation to exercise physiology and vascular function. Their inclusion in an athlete-specific dietary quality index should therefore remain an important component. However, the assessment should recognize that nutritional timing and gastrointestinal tolerance may influence food selection immediately before exercise.

Whole Grains

Whole grains provide carbohydrates, fibre, B vitamins, minerals, and other bioactive compounds. They contribute to dietary diversity and support normal gastrointestinal function. Their nutritional value makes them an appropriate component of an athlete-specific DQI. Nevertheless, high-fibre foods may not always be suitable immediately before intense exercise, athletes who experience gastrointestinal discomfort. An assessment framework should therefore

 © 2026 Brock S

evaluate whole-grain consumption while recognizing that meal timing and training schedules influence appropriate food choices.

Dairy Products

Dairy products provide protein, calcium, carbohydrates, and other essential nutrients. Calcium and vitamin D are relevant to bone health, while dairy-derived proteins contribute to muscle repair and recovery. Milk has also been investigated as a post-exercise recovery beverage because its nutrient composition provides carbohydrates, protein, and fluid. Its potential application depends on individual tolerance, dietary preferences, and nutritional requirements. The dairy component of the HEI can therefore be retained in an athlete-specific index. Alternative calcium-rich and fortified foods should also be recognized when athletes avoid dairy products.

Omega-3 Fatty Acids

Omega-3 fatty acids contribute to normal cellular function and are involved in several physiological processes. Dietary sources include oily fish, certain seafood products, nuts, seeds, and plant oils. Although omega-3 fatty acids are not an independent HEI component, their contribution through seafood and plant-based foods supports the inclusion of these dietary categories in athlete assessment. An athlete-specific DQI should evaluate the quality and variety of dietary fat sources rather than focusing exclusively on total fat consumption.

Modification of Moderation Components

The moderation components of the HEI require careful evaluation when applied to athletic populations. Refined grains and added sugars are generally restricted within population-based dietary guidelines. However, rapidly digestible carbohydrate sources may be useful during prolonged or high-intensity exercise. Sports drinks, carbohydrate gels, and other easily digested foods can support exercise fueling. Consequently, an athlete-specific assessment should distinguish between routine dietary consumption and carbohydrate intake associated with training or competition.

Sodium requirements also vary according to sweat rate, sweat composition, environmental conditions, and exercise duration. Applying a uniform restriction may not accurately represent the electrolyte requirements of athletes. Saturated fat should remain a moderation component because excessive consumption may negatively influence long-term cardiovascular health. The assessment should therefore distinguish between appropriate dietary fat intake and excessive consumption.

Proposed Additions to the Healthy Eating Index

Several additional components may improve the suitability of the HEI for athletic populations.

Hydration: Fluid consumption should be evaluated in relation to training duration, environmental conditions, and individual sweat losses.

Energy Availability: Adequate energy intake is essential for maintaining physiological function, supporting training adaptations, and preventing the consequences associated with insufficient energy availability.

Macronutrient Adequacy: Carbohydrate, protein, and fat intake should be assessed according to training demands and individual requirements.

Nutrient Timing: Food consumption before, during, and after exercise should be incorporated into the assessment framework.

Alcohol Consumption: Alcohol intake may be included as a moderation indicator because of its potential effects on recovery and health.

Dietary Diversity: Food variety should be evaluated to identify possible nutritional gaps and limited consumption of nutrient-dense foods.

CONCLUSION

Dietary quality indices provide a structured means of evaluating food consumption patterns and identifying areas where nutritional intake may require improvement. The evidence reviewed indicates that most established indices were designed for the general population and do not fully represent the nutritional demands associated with athletic training, competition, and recovery. The Athlete Diet Index offers an important athlete-focused approach, although additional validation across sports, performance levels, and cultural settings remains necessary. The Healthy Eating Index provides a useful foundation because it has an established structure and a substantial history of evaluation. However, its application in sport may require adjustments to account for energy availability, macronutrient requirements, hydration, electrolyte balance, nutrient timing, and exercise-related fueling. A revised assessment framework should combine dietary adequacy, moderation, sports nutrition requirements, and eating behaviors. Its scoring criteria must be tested for reliability, validity, and practical usefulness before routine implementation. Such a tool could support consistent

 © 2026 Brock S

nutritional screening, targeted dietary interventions, and stronger research in sports nutrition.

References

1. Alkerwi A. Diet quality concept. Nutrition. 2014;30(6):613–618.
2. Kant AK. Indexes of overall diet quality: A review. J Am Diet Assoc. 1996;96(8):785–791.
3. Waijers PMCM, Feskens EJM, Ocké MC. A critical review of predefined diet quality scores. Br J Nutr. 2007;97(2):219–231.
4. Wirt A, Collins CE. Diet quality—what is it and does it matter? Public Health Nutr. 2009;12(12):2473–2492.
5. United States Department of Agriculture. Purpose of the Dietary Guidelines. Dietary Guidelines for Americans.
6. Thomas DT, Erdman KA, Burke LM. Position of the Academy of Nutrition and Dietetics, Dietitians of Canada and the American College of Sports Medicine: Nutrition and athletic performance. J Acad Nutr Diet. 2016;116(3):501–528.
7. International Atomic Energy Agency. Diet Quality. IAEA. 2016.
8. Elmadfa I, Meyer A. Diet quality, a term subject to change over time. Int J Vitam Nutr Res. 2012;82(3):144–147.
9. Maron BJ, Thompson PD, Ackerman MJ, et al. Recommendations and considerations related to preparticipation screening for cardiovascular abnormalities in competitive athletes: 2007 update. Circulation. 2007;115(12):1643–1655.
10. Pelliccia A, Fagard R, Bjørnstad HH, et al. Recommendations for competitive sports participation in athletes with cardiovascular disease: A consensus document. Eur Heart J. 2005;26(14):1422–1445.
11. McKinney J, Velghe J, Fee J, Isserow S, Drezner JA. Defining athletes and exercisers. Am J Cardiol. 2019;123(3):532–535.
12. Sanz de la Garza M, Adami P. Definition of athletes and classification of sports. In: Textbook of Sports and Exercise Cardiology. 2020:471–486.
13. Swann C, Moran A, Piggott D. Defining elite athletes: Issues in the study of expert performance in sport psychology. Psychol Sport Exerc. 2015;16(1):3–14.
14. McKay AKA, Stellingwerff T, Smith ES, et al. Defining training and performance caliber: A participant classification framework. Int J Sports Physiol Perform. 2021;17(2):317–331.
15. United States Department of Agriculture, United States Department of Health and Human Services. Dietary Guidelines for Americans 2020–2025. 2020.
16. Capling L, Gifford JA, Beck KL, et al. Development of an Athlete Diet Index for rapid dietary assessment of athletes. Int J Sport Nutr Exerc Metab. 2019;29(6):643–650.
17. Coleman E. Carbohydrate and exercise. In: Sports Nutrition: A Handbook for Professionals. 6th ed. Academy of Nutrition and Dietetics. 2017:21–38.
18. Raymond J, Morrow K. Nutrition facts on a high-fiber diet. In: Krause and Mahan's Food and the Nutrition Care Process. 15th ed. Elsevier. 2021:1090–1091.
19. Richter M, Baerlocher K, Bauer JM, et al. Revised reference values for the intake of protein. Ann Nutr Metab. 2019;74(3):242–250.
20. United States Department of Agriculture. How the Healthy Eating Index Is Scored. USDA Food and Nutrition Service. 2023.
21. Burd N, Phillips S. Protein and exercise. In: Sports Nutrition: A Handbook for Professionals. 6th ed. Academy of Nutrition and Dietetics. 2017:39–59.
22. Capling L, Gifford JA, Beck KL, et al. Relative validity and reliability of a novel diet quality assessment tool for athletes: The Athlete Diet Index. Br J Nutr. 2021;126(2):307–319.
23. National Institutes of Health, Office of Dietary Supplements. Omega-3 Fatty Acids: Fact Sheet for Health Professionals. 2024.
24. Gilman A, Volpe S. Vitamins, minerals and exercise. In: Sports Nutrition: A Handbook for Professionals. 6th ed. Academy of Nutrition and Dietetics. 2017:80–106.
25. Gordon B. How Much Water Do You Need? Academy of Nutrition and Dietetics. 2024.
26. O'Brien C, Lyons F. Alcohol and the athlete. Sports Med. 2000;29:295–300.
27. Blair R. The Development, Validity and Reproducibility of a Tool (the Athlete Diet Index Questionnaire) to Assess the Dietary Intake of High Performing Athletes. Massey University, New Zealand. 2016.
28. Capling L, Tam R, Beck KL, et al. Diet quality of elite Australian athletes evaluated using the Athlete Diet Index. Nutrients. 2021;13(1):126.
29. Werner EN, Robinson CA, Kerver JM, Pivarnik JM. Diet quality of NCAA Division I athletes assessed by the Healthy Eating Index. J Am Coll Health. 2024;72(4):1309–1315.
30. Jürgensen LP, Daniel NVS, Padovani R da C, et al. Assessment of diet quality for athletes in team sports. Rev Bras Cineantropometria Desempenho Hum. 2015;17(3):280–290.
31. Schneider WVD, Sasaki CAL, Da Costa THM. Intermediate-level diet quality of Brazilian paralympic athletes based on national and international indexes. Nutrients. 2023;15(14):3163.
32. Çelik ÖM, Dağdeviren N. Evaluation of diet quality using the Healthy Eating Index in college athletes. Gazi Sağlık Bilim Derg. 2022;7(1):89–138.

 © 2026 Brock S

33. Jontony N, Hill EB, Taylor CA, et al. Diet quality, carotenoid status and body composition in NCAA Division I athletes. Am J Health Behav. 2020;44(4):432–443.

34. Zanella PB, August PM, Alves FD, et al. Association of Healthy Eating Index and oxidative stress in adolescent volleyball athletes and non-athletes. Nutrition. 2019;60:230–234.

35. Gieng J, Field KD, Pignotti GAP. Healthy Eating Index and Dietary Inflammatory Index are not correlated with body composition in female collegiate athletes. J Am Coll Health. 2024;72(9):3829–3835.

 © 2026 Brock S