



Research

Determinants of Food Choice in Professional Basketball Players: An Age-, Gender-, and Position-Based Assessment Using the Athlete Food Choice Questionnaire

Profesyonel Basketbolcularda Besin Seçimini Belirleyen Faktörler: Sporcu Besin Seçimi Anketi Kullanılarak Yaş, Cinsiyet ve Pozisyona Dayalı Bir Değerlendirme

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ABSTRACT

Objective: The aim of this study is to evaluate the characteristics affecting food choices in professional basketball players using the Athlete Food Choice Questionnaire (AFCQ) and to investigate the effect of age, gender, and player position variables on food choice.

Methods: The study included 197 professional basketball players (102 men and 95 women). Data for the study were collected using the Turkish or English versions of the AFCQ, along with participants' demographic information. Data were analyzed using SPSS 26.0; kurtosis and skewness were used to assess normality. Independent-groups t-tests and analysis of variance were used for variables that met the assumption of normality, while Spearman's correlation and appropriate non-parametric tests were used for variables that did not.

Results: Age and gender significantly affected some AFCQ subscale scores, and the overall consistency of the positions performed was also significant. Female athletes scored significantly higher than male athletes in the "emotional effects" ($p=0.011$) and "emotional appeal" ($p=0.001$). Athletes under the age of 18 scored significantly lower than athletes in other age groups on "nutritional properties of food," "emotional effects," "food and health awareness," "weight control," "food values and beliefs," and "performance" ($p<0.05$).

Conclusion: Age and gender are important variables that determine the food choices of professional basketball players. Therefore, age- and gender-focused individualized education programs can contribute to improving nutrition in athletes, thereby enhancing performance and reducing the risk of sports injuries.

Keywords: Athlete Food Choice Questionnaire, basketball, food, choice

ÖZ

Amaç: Bu çalışmanın amacı, profesyonel basketbolcularda yiyecek seçimlerini etkileyen özellikleri Sporcu Besin Seçimi Anketi (SBSA) kullanılarak değerlendirmek ve yiyecek seçimi üzerinde yaş, cinsiyet ve oyuncu pozisyonu değişkenlerinin etkisini araştırmaktır.

Gereç ve Yöntem: Çalışmaya 199 profesyonel basketbolcu (102 erkek, 95 kadın) dahil edildi. Katılımcıların demografik bilgileri ile birlikte SBSA'nın Türkçe veya İngilizce versiyonu kullanılarak çalışma için veri toplandı. Veriler SPSS 26.0 programı ile analiz edilmiş; normallik değerlendirmesinde basıklık ve çarpıklık değerleri kullanılmıştır. Normallik sağlayan değişkenlerde bağımsız gruplar t-testi ve varyans analizi, sağlanamayanlarda ise Spearman bakımı ve uygun parametrik olmayan testler kullanılmıştır.

Bulgular: Yaş ve cinsiyet değişkenlerinin bazı SBSA alt ölçek puanları üzerinde anlamlı sonuçlar olduğu, ancak gerçekleştirilen pozisyonların genel olarak anlamlı kalıcılığı tespit edilmiştir. Kadın sporcular "duygusal etkiler" ($p=0,011$) ve "duygusal çekicilik" ($p=0,001$) erkek sporculardan puanlarında anlamlı olarak yüksek skorlar elde etti. On sekiz yaşın altındaki sporcuların "gıdanın besinsel özellikleri", "duygusal etkiler", "gıda

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ÖZ

ve sağlık bilinci", "kilo kontrolü", "gıda değerleri ve inançlar" ve "performans" puanları diğer yaşlarına göre anlamlı olarak daha düşük olarak saptanmıştır ($p<0,05$).

Sonuç: Profesyonel basketbolcularda yaş ve cinsiyet, yiyecek seçimlerini belirleyen önemli değişkenlerdir. Bu nedenle yaş ve cinsiyet odaklı bireyselleştirilmiş eğitim programları, sporcularda beslenmeyi iyileştirerek performansın artırılmasına ve spor yaralanması riskinin azaltılmasına katkı sağlayabilir.

Anahtar Kelimeler: Sporcu Besin Seçimi Anketi, basketbol, besin, seçim

INTRODUCTION

Athletes are a unique group distinct from the rest of society because factors related to sports and performance influence their food choices (1,2).

Nutrition is considered one of the fundamental elements of athletic performance (3). This is because nutrition is considered a critical component for enhancing performance, facilitating physiological adaptations, and preventing injuries in athletes (4).

Basketball is one of the most popular sports in the world, played by men and women of all levels and ages (5). Basketball is classified as a sport that combines aerobic and anaerobic activities (6). This sport involves short periods of high-intensity activities such as sprinting, quick changes of direction, acceleration, deceleration, and running backwards, as well as short periods of low-intensity activities such as walking, jogging, and recovery periods, which place high demands on anaerobic/aerobic capacity (7). This, in turn, places high physical and physiological demands on basketball players, particularly with respect to nutrition.

In the general population, factors such as age, gender, education level, and income can influence food choices (8,9). In addition, many factors such as cost, taste, and availability affect food choices (10). Unlike those of the general population, athletes' food choices may be influenced by numerous factors, such as impacts on athletic performance, food preparation, coaches' and teammates' influence, and sports culture (10).

Although studies on determinants of food choice are widespread, it is noted that these studies have not been conducted in specific populations (11). For this reason, the authors aimed to evaluate the factors affecting food choice in basketball players, who have unique characteristics and physiological needs. They hypothesized that variables such as gender, age group, and playing position may influence food selection among basketball players.

METHODS

The study was designed as a survey. Data collection for the study began after obtaining approval from the University of

Health Sciences Türkiye, Bakırköy Dr. Sadi Konuk Research and Training Hospital Non-Interventional Scientific Research Ethics Committee (approval no: 2025-17-05, date: 17.09.2025). Written informed consent was obtained from all adult participants. For participants younger than 18 years, written informed consent was obtained from their parents or legal guardians, and assent was obtained from the participants themselves. Those with known food allergies, food intolerances, previous surgical treatment related to the digestive system, diagnosed chronic diseases, or who did not sign the informed consent form were not included in the study.

No personal information was used for any basketball player who agreed to participate in the study. The following information for all participants was recorded on questionnaire forms and subsequently transferred to a computer database.

- Gender,
- Age (grouped as under 18, 18-25, and over 25),
- Position played,
- Height,
- Weight,
- Body mass index (BMI).

All basketball players who agreed to participate in the study completed the Athlete Food Choice Questionnaire (AFCQ). This questionnaire uses a 1 (never) to 5 (always) rating scale and was originally developed to identify food choice determinants in English-speaking populations (12). This questionnaire consists of 32 items representing nine factors: nutritional characteristics of food, emotional effects, food and health awareness, influence of others, eating habits, weight control, food values and beliefs, emotional appeal, and performance. For basketball players whose native language is Turkish, the previously adapted Turkish version of this questionnaire was used (13). For basketball players whose native language is not Turkish, the original English version of the questionnaire, designed for English-speaking populations, was used. All players' responses were recorded separately for statistical analysis.

Statistical Analysis

Data analysis was performed using SPSS 26.0 and was conducted at a 95% confidence level. In this study, skewness and kurtosis coefficients were examined to determine the suitability of the variables for a normal distribution. Skewness and kurtosis values obtained from the variables ranging between +3 and -3 were considered sufficient for normal distribution (14-16). Normality was achieved for skewness and kurtosis values between -3 and +3, but not for variables outside this range. Accordingly, the relationships between height and scale scores and between weight and scale scores were tested using Pearson correlation analysis, while the relationship between BMI and scale scores was tested using Spearman correlation analysis. Differences in scale scores by gender were analyzed using the t-test, whereas differences by age and playing position were analyzed using analysis of variance (ANOVA). If a difference was found in the ANOVA test, the post-hoc analysis was performed using the lysergic acid diethylamide test.

RESULTS

A total of 197 basketball players were included in the study. Among the participants, 60.9% (n=120) were under 18 years old, 26.4% (n=52) were between 18 and 25 years old, and 12.7% (n=25) were over 25 years old. Regarding gender distribution, 51.8% (n=102) of participants were male and 48.2% (n=95) were female. When evaluating positions played, participants were distributed as follows: 20.8% (n=41) guards, 13.7% (n=27) point guards, 21.8% (n=43) shooting guards, 25.4% (n=50) power forwards, and 18.3% (n=36) centers. The participants' height ranged from 150 cm to 219 cm, with an average of 185.9 ± 12.69 cm. Body weight ranged from 48 kg to 118 kg, with an average of 77.18 ± 14.18 kg. BMI ranged from 17.09 to 42.22, with an average of 22.2 ± 2.58 .

Table 1 presents the average responses of all study participants to the 9 questionnaire headings.

Data on the relationship between determinants of food choice and age show that the "nutritional properties of food" score is 3.49 ± 0.77 in the under-18 group, 3.78 ± 0.75 in the 18-25 age group, and 3.89 ± 0.81 in the over-25 age group. The ANOVA test revealed a significant difference between the groups ($F=4.290$, $p=0.015$). Post-hoc analyses show that this difference is due to lower scores in the under-18 group compared with those in the 18-25 and over-25 age groups. The "emotional effects" score was 2.51 ± 1.06 in the under-18 group, 2.62 ± 0.98 in the 18-25 age group, and 3.11 ± 1.27 in the over-25 age group. A significant difference was observed between the groups ($F=3.207$, $p=0.043$); post-hoc analyses indicate that the under-18 group scored lower than the over-25 group. The "food and health awareness" score is 3.51 ± 0.70 in the under-18 group, 3.85 ± 0.79 in the 18-25 age group, and 3.94 ± 0.76 in the over-25 age group. A significant difference was observed between the groups ($F=6.063$, $p=0.003$); post-hoc analysis showed that the under-18 group scored lower than the other two age groups. The "influence of others" score is 2.91 ± 0.88 in the under-18 group, 2.67 ± 0.91 in the 18-25 age group, and 2.80 ± 1.06 in the over-25 age group. There is no significant difference between the groups ($F=1.287$, $p=0.278$). The "normal eating practices" score was 3.26 ± 0.84 in the under-18 group, 3.40 ± 0.86 in the 18-25 age group, and 3.72 ± 0.89 in the over-25 age group. There is a significant difference between groups ($F=3.092$, $p=0.048$), with the under-18 group scoring lower than the over-25 group. The "weight control" score is 3.48 ± 0.84 in the under-18 age group, 4.05 ± 0.70 in the 18-25 age group, and 4.11 ± 0.77 in the over-25 age group. There was a significant difference between the groups ($F=13.033$, $p<0.001$); the under-18 group had a lower score than the other two age groups. The "food values and beliefs" score is 2.21 ± 1.00 in the under-18 group, 2.69 ± 1.13 in the 18-

Table 1. Average responses of participants in the study to the 9 headings in the questionnaire and the skewness and kurtosis values for these data

	Mean $\pm$ SD	Skewness	Kurtosis
Nutritional properties of food	3.62 ± 0.79	-0.267	-0.034
Emotional effects	2.62 ± 1.08	0.230	-0.660
Food and health awareness	3.66 ± 0.75	-0.300	-0.052
Influence of others	2.84 ± 0.91	0.026	-0.162
Normal eating practices	3.36 ± 0.86	0.037	-0.551
Weight control	3.71 ± 0.84	-0.496	0.271
Food values and beliefs	2.38 ± 1.09	0.610	-0.302
Emotional appeal	3.98 ± 0.81	-0.712	0.652
Performance	4.4 ± 0.76	-1.401	1.897

SD: Standard deviation

25 age group, and 2.55 ± 1.30 in the over-25 age group. A significant difference between the groups was observed ($F=3.811$, $p=0.024$); the under-18 group scored lower than the 18-25 age group. The “emotional attractiveness” score is 3.96 ± 0.80 in the under-18 group, 3.92 ± 0.88 in the 18-25 age group, and 4.15 ± 0.73 in the over-25 age group. There is no significant difference between the groups ($F=0.678$, $p=0.509$). The “performance” score is 4.28 ± 0.78 in the under-18 group, 4.54 ± 0.80 in the 18-25 age group, and 4.69 ± 0.43 in the over-25 age group. There is a significant difference between the groups ($F=4.371$, $p=0.014$), and the under-18 group has a lower score than the other two age groups.

Data on the relationship between participants’ responses and gender are presented in Table 2.

According to the data in Table 2, the “nutritional properties of food” score is 3.63 ± 0.83 for men and 3.61 ± 0.74 for women. The independent-groups t-test found no significant difference ($t=0.096$, $p=0.924$). The “emotional effects” score is 2.43 ± 1.08 for men and 2.82 ± 1.05 for women. There is a significant difference between the groups ($t=-2.580$, $p=0.011$); women’s scores are higher than men’s. The “food and health awareness” score is 3.58 ± 0.75 for men and 3.74 ± 0.74 for women. No significant difference was observed between the groups ($t=-1.465$, $p=0.145$). The “influence of others” score is 2.91 ± 1.01 for men and 2.76 ± 0.79 for women. No significant difference was observed between the groups ($t=1.158$, $p=0.248$). The “usual eating practices” score is 3.32 ± 0.93 in men and 3.40 ± 0.77 in women. There is no significant difference between the groups ($t=-0.712$, $p=0.478$). The “weight control” score is 3.63 ± 0.84 in men and 3.79 ± 0.85 in women. No significant difference was observed between the groups ($t=-1.285$, $p=0.200$). The “food values and beliefs” score is 2.24 ± 1.04 for men and

2.54 ± 1.13 for women. There is no significant difference between the groups ($t=-1.946$, $p=0.053$). The “emotional attractiveness” score is 3.80 ± 0.85 for men and 4.16 ± 0.72 for women. A significant difference between the groups ($t=-3.232$, $p=0.001$); women’s scores were higher than men’s. The “performance” score is 4.34 ± 0.80 in men and 4.46 ± 0.73 in women. There is no significant difference between the groups ($t=-1.069$, $p=0.286$).

The relationship between participants’ answers and the positions they played is shown in Figure 1.

According to the data in Figure 1, the “nutritional properties of food” score is 3.60 ± 0.89 for the guard position, 3.52 ± 0.94 for the point guard position, 3.73 ± 0.72 for the shooting guard position, 3.70 ± 0.73 for the power forward position, and 3.48 ± 0.69 for the center position. The ANOVA test found no significant difference ($F=0.695$, $p=0.596$). Emotional effects scores are 2.54 ± 1.07 for the guard position, 2.48 ± 1.19 for the point guard position, 2.55 ± 1.06 for the shooting guard position, 2.66 ± 1.08 for the power forward position, and 2.85 ± 1.04 for the center position. There is no significant

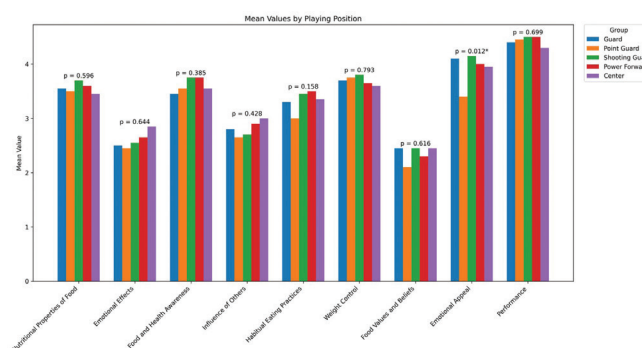


Figure 1. Distribution of participants’ responses according to their playing positions

Table 2. Data showing the relationship between determinants of food choice and gender

	Gender		t	p-value
	Male	Female		
	Average	Average		
Nutritional properties of food	3.63 ± 0.83	3.61 ± 0.74	0.096	0.924
Emotional effects	2.43 ± 1.08	2.82 ± 1.05	-2.580	0.011
Food and health awareness	3.58 ± 0.75	3.74 ± 0.74	-1.465	0.145
Influence of others	2.91 ± 1.01	2.76 ± 0.79	1.158	0.248
Normal eating practices	3.32 ± 0.93	3.4 ± 0.77	-0.712	0.478
Weight control	3.63 ± 0.84	3.79 ± 0.85	-1.285	0.200
Food values and beliefs	2.24 ± 1.04	2.54 ± 1.13	-1.946	0.053
Emotional appeal	3.8 ± 0.85	4.16 ± 0.72	-3.232	0.001
Performance	4.34 ± 0.8	4.46 ± 0.73	-1.069	0.286

difference between the groups ($F=0.627$, $p=0.644$). The "food and health awareness" score is 3.52 ± 0.80 for the guard position, 3.59 ± 0.77 for the point guard position, 3.77 ± 0.61 for the shooting guard position, 3.77 ± 0.75 for the power forward position, and 3.57 ± 0.81 for the center position. There is no significant difference between the groups ($F=1.045$, $p=0.385$). The "influence of others" score is 2.83 ± 1.01 for the guard position, 2.63 ± 1.01 for the point guard position, 2.73 ± 0.98 for the shooting guard position, 2.91 ± 0.74 for the power forward position, and 3.03 ± 0.84 for the center position. There is no significant difference between the groups ($F=0.965$, $p=0.428$). The "normal eating practices" score is 3.29 ± 0.88 for the guard position, 3.02 ± 0.98 for the point guard position, 3.45 ± 0.79 for the shooting guard position, 3.52 ± 0.80 for the power forward position, and 3.35 ± 0.85 for the center position. There is no significant difference between the groups ($F=1.673$, $p=0.158$). The "weight control" score is 3.73 ± 0.93 for the guard position, 3.76 ± 1.00 for the point guard position, 3.81 ± 0.75 for the shooting guard position, 3.65 ± 0.83 for the power forward position, and 3.60 ± 0.78 for the center position. There is no significant difference between the groups ($F=0.421$, $p=0.793$). The "food values and beliefs" score is 2.50 ± 0.98 for the guard position, 2.15 ± 1.01 for the point guard position, 2.46 ± 1.21 for the shooting guard position, 2.27 ± 1.19 for the power forward position, and 2.47 ± 1.01 for the center position. No significant difference was observed between the groups ($F=0.667$, $p=0.616$). The "emotional attractiveness" score is 4.11 ± 0.75 for the guard position, 3.49 ± 0.91 for the point guard position, 4.14 ± 0.72 for the shooting guard position, 3.99 ± 0.69 for the power forward position, and 3.96 ± 0.95 for the center position. The ANOVA test revealed a significant difference ($F=3.288$, $p=0.012$). According to the post-hoc analysis results, the Emotional Attractiveness score is higher in the guard, shooting guard, power forward, and center positions than in the point guard position. The performance score is 4.38 ± 0.78 for the guard position, 4.42 ± 0.79 for the point guard position, 4.46 ± 0.91 for the shooting guard position, 4.47 ± 0.59 for the power forward position, and 4.24 ± 0.76 for the center position. No significant difference was observed between the groups ($F=0.551$, $p=0.699$).

DISCUSSION

The most important finding of this study is that age and gender affect food choices in professional basketball players, whereas playing position does not.

Previous studies in the literature have shown that gender is an important factor in dietary differences (17,18). Food

choices are significantly influenced by health beliefs, and since men and women have different health beliefs, differences in food choices are expected (19). In their study evaluating the food choices of athletes competing in international competitions, Pelly and colleagues used a questionnaire different from the AFCQ and found that there were differences between men and women in the factors influencing food choice (2). Thurecht and colleagues also investigated the variables affecting food choices of athletes in international competitions and used the AFCQ in this study (20). This study found that the food selection criteria of "performance" and "emotional effects" affected female athletes' food choices more than males (20). Carey et al. (21) evaluated food selection in athletes in the Irish population using the AFCQ and found differences between women and men in terms of "food and health awareness," "nutritional values," "emotional appeal," and "emotional effects". They emphasized that "emotional effects" are more important in women's food choices. Sevim et al. (13), in their work on the Turkish validation of the AFCQ, showed that "influence of others," "emotional effects," and "emotional appeal" were more effective in female athletes' food choices, while "weight control" was a more effective variable in male athletes' food choices. In our study, we separately examined the effects of AFCQ parameters on food selection among female and male athletes. Consistent with other studies, we found differences in food selection between female and male athletes. In the present study, significant gender differences were observed only in the emotional effects and emotional appeal, with female athletes scoring higher than male athletes. No statistically significant gender differences were found for nutritional properties of food, food and health awareness, influence of others, usual eating practices, weight control, food values and beliefs, or performance.

Few studies have evaluated the relationship between athlete age and food choice. Carey et al. (21) evaluated food choice in athletes in the Irish population using the AFCQ. In this study, they found that for every 10-year increase in age among athletes, the effect of "nutritional values" on food selection increased, the effect of "emotional influences" on food selection decreased with age, and the effect of "influence of others" also decreased with age. In our study, we evaluated the relationship between age and food selection factors identified using the AFCQ. We examined the average scores of athletes under 18 years of age, athletes between 18 and 25 years of age, and athletes over 25 years of age in the areas of "nutritional properties of food," "emotional effects," "food and health awareness," "weight control," "food values and beliefs," and "performance".

We found that athletes under 18 years of age had lower average scores than athletes aged 18-25 and athletes over 25 years of age.

Nutrition is one of the fundamental factors that determines not only the physical and psychological health of athletes, but also their athletic performance, risk of injury, and recovery time after injury (22). However, the current literature reveals that athletes experience various difficulties in adhering to recommended nutrition protocols and often make food choices that do not meet their performance requirements (13,23). This situation can increase the incidence of injuries and lead to prolonged rehabilitation periods, especially in sports such as basketball, which involve high energy requirements and injury risks. A study conducted in Türkiye found that athletes who had previously received nutrition education demonstrated a significant increase in awareness of factors such as "nutrition and health awareness," "nutritional properties of foods," "weight control," and "established eating habits. This finding demonstrates that nutrition education has a direct effect on eating behaviors. Therefore, implementing individualized nutrition education programs for elite athletes may contribute to reducing the risk and frequency of injuries both directly and indirectly.

Study Limitations

As with any study, this one has certain limitations. First, because the study had a cross-sectional design, the relationship between variables cannot be interpreted as causal. The collection of data using self-report methods may lead to recall bias and social desirability bias. Since the study was conducted only on professional basketball players, the generalizability of the findings to different sports or amateur athletes is limited. Furthermore, the interaction between cultural and environmental factors and food choices was not directly assessed. Although the factors influencing food choices have been identified, the lack of examination of athletes' actual food consumption levels and their relationship with performance or injury outcomes constitutes a limitation.

CONCLUSION

The present findings suggest that age and gender are important determinants of food choice among professional basketball players, while playing position generally has no significant effect. The findings show that young and male athletes, in particular, pay less attention to health and nutritional values in their food choices. Considering the effects of nutrition on injury, performance, and physiology, individualized nutrition education tailored to athletes' age and gender characteristics can contribute both to the

development of nutritional habits and to sports performance and recovery processes, with the aim of eliminating negative effects.

ETHICS

Ethics Committee Approval: Data collection for the study began after obtaining approval from the University of Health Sciences Türkiye, Bakırköy Dr. Sadi Konuk Research and Training Hospital Non-Interventional Scientific Research Ethics Committee (approval no: 2025-17-05, date: 17.09.2025).

Informed Consent: Written informed consent was obtained from all adult participants. For participants younger than 18 years, written informed consent was obtained from their parents or legal guardians, and assent was obtained from the participants themselves.

FOOTNOTES

Authorship Contributions

Surgical and Medical Practices: B.B., S.A., Concept: B.B., S.A., S.E., A.D., Design: B.B., S.A., A.D., Data Collection or Processing: B.B., S.A., M.E., Analysis or Interpretation: B.B., S.A., M.E., Literature Search: B.B., S.A., M.E., S.E., Writing: B.B., S.A., A.D.

Conflict of Interest: Altuğ Duramaz Prof. MD is a Editorial Member in Medical Journal of Bakırköy. He had no involvement in the peer-review of this article and had no access to information regarding its peer-review. The other authors declared no conflict of interest.

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REFERENCES

1. Pelly FE, Thurecht RL, Slater G. Determinants of food choice in athletes: a systematic scoping review. *Sports Med Open*. 2022;8:77.
2. Pelly FE, Burkhart SJ, Dunn P. Factors influencing food choice of athletes at international competition events. *Appetite*. 2018;121:173-8.
3. Malsagova KA, Kopylov AT, Sinitsyna AA, Stepanov AA, Izotov AA, Butkova TV, et al. Sports nutrition: diets, selection factors, recommendations. *Nutrients*. 2021;13:3771.
4. 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;116:501-28. Erratum in: *J Acad Nutr Diet*. 2017;117:146.
5. Ziv G, Lidor R. Physical attributes, physiological characteristics, on-court performances and nutritional strategies of female and male basketball players. *Sports Med*. 2009;39:547-68.
6. Stojanović E, Stojiljković N, Scanlan AT, Dalbo VJ, Berkelmans DM, Milanović Z. The activity demands and physiological responses encountered during basketball match-play: a systematic review. *Sports Med*. 2018;48:111-35.

7. Ben Abdelkrim N, El Fazaa S, El Ati J. Time-motion analysis and physiological data of elite under-19-year-old basketball players during competition. *Br J Sports Med*. 2007;41:69-75; discussion 75.
8. Steptoe A, Pollard TM, Wardle J. Development of a measure of the motives underlying the selection of food: the food choice questionnaire. *Appetite*. 1995;25:267-84.
9. Furst T, Connors M, Bisogni CA, Sobal J, Falk LW. Food choice: a conceptual model of the process. *Appetite*. 1996;26:247-65.
10. Long D, Perry C, Unruh SA, Lewis N, Stanek-Krogstrand K. Personal food systems of male collegiate football players: a grounded theory investigation. *J Athl Train*. 2011;46:688-95.
11. Symmank C, Mai R, Hoffmann S, Stok FM, Renner B, Lien N, et al. Predictors of food decision making: a systematic interdisciplinary mapping (SIM) review. *Appetite*. 2017;110:25-35.
12. Thurecht RL, Pelly FE. Development of a new tool for managing performance nutrition: the athlete food choice questionnaire. *Int J Sport Nutr Exerc Metab*. 2019;29:620-7.
13. Sevim Y, Thurecht RL, Pelly FE. Validation of a Turkish version of the athlete food choice questionnaire. *Nutrients*. 2023;15:3612.
14. Hopkins KD, Weeks DL. Tests for normality and measures of skewness and kurtosis: their place in research reporting. *Educational and Psychological Measurement*. 1990;50:717-29.
15. DeCarlo LT. On the meaning and use of kurtosis. *Psychological Methods*. 1997;2:292-307.
16. Groeneveld RA, Meeden G. Measuring skewness and kurtosis. *Journal of the Royal Statistical Society: Series D (The Statistician)*. 1984;33:391-9.
17. Grzymisławska M, Puch EA, Zawada A, Grzymisłowski M. Do nutritional behaviors depend on biological sex and cultural gender? *Adv Clin Exp Med*. 2020;29:165-72.
18. Wardle J, Haase AM, Steptoe A, Nillapun M, Jonwutiwes K, Bellisle F. Gender differences in food choice: the contribution of health beliefs and dieting. *Ann Behav Med*. 2004;27:107-16.
19. Egele VS, Stark R. Specific health beliefs mediate sex differences in food choice. *Front Nutr*. 2023;10:1159809.
20. Thurecht R, Pelly F. Key Factors influencing the food choices of athletes at two distinct major international competitions. *Nutrients*. 2020;12:924.
21. Carey CC, Creedon EM, Molloy F, Lewis M, Leen Smith B, McCarthy EK. Exploring food choice influences in athletes and active populations in Ireland: a cross-sectional study. *Curr Dev Nutr*. 2025;9:104568.
22. Turnagöl HH, Koşar ŞN, Güzel Y, Aktitiz S, Atakan MM. Nutritional considerations for injury prevention and recovery in combat sports. *Nutrients*. 2021;14:53.
23. Pelly FE, Thurecht R. Evaluation of athletes' food choices during competition with use of digital images. *Nutrients*. 2019;11:1627.