



## Examination of Nutrition Knowledge Levels of Individuals Who Received Sports Training

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**Abstract:** The aim of this research is to determine whether the nutrition lessons taken affect the students, to what extent the students adapt the learned nutrition information to their lives, whether there is a relationship between the sports branch and nutrition information, whether there is a relationship between body mass index grouping and nutrition information. A total of 202 people, 125 (61.9%) men and 77 (38.1%) women, aged  $23.21 \pm 3.31$  years, participated in the study. In the first part of the data collection tool prepared in the research, the personal information of the participants was asked. In the second part, "Basic Nutrition Information" scale, in the third part "Food Preference" scale was asked. The factual questionnaire containing personal information consists of 16 questions in total. Multiple choice and open-ended questions were included in the questionnaire in which personal information was asked. The height and body weights of the participants were submitted by themselves. Body mass indexes (BMI) were calculated with the given body weight and height information ( $BMI = \text{Body Weight (kg.)} / \text{Height squared (m}^2\text{)}$ ). The collected data were analyzed using the SPSS 22 package program. The homogeneity of the data was performed using the Scheffe and Hochberg GT2 test and the Post-Hoc multiple comparison test. Pearson Correlation test was used to determine the relationship between the nutritional knowledge levels of the individuals participating in the study and their age groups, since the data showed a normal distribution. The BMI and YETBİD total scores of graduates and students were compared, a significant difference was found between graduates and students ( $p < 0.05$ ). A significant difference in the YETBİD total score was found to be in favor of graduates. BMI was found to be higher in graduates compared to students. No significant difference was found when BT total scores were compared ( $p > 0.05$ ). When the total scores of the participants were evaluated according to the status of taking courses, a significant difference was found in favor of those who took courses in both YETBİD and BT. As a result; Nutrition education on proper nutrition (i.e. carbohydrates, protein and fluid) should be the main focus and priority, both in order to have an impact on public health, and to increase the performance of those who do sports and to aid recovery.

**Keywords:** Basic Nutrition Information, Food Preference, Sport Science, Graduated, Studying

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## I. INTRODUCTION

The society, which has industrialized with scientific and technological developments, has moved from the traditional diet style to the processed food culture. Prepared foods cause health problems by affecting the biochemistry of the human body. Today, with the prolongation of the time spent outside the home, changes in home cooking, the desire not to cook and the content of consumed foods have also changed.<sup>1</sup> In addition to unhealthy foods, consuming less or more nutrients has negative effects on health, advances in medicine and technology have prevented some diseases, but reduced the frequency of human movement, and this change in movement brings some diseases to light.<sup>2</sup> Today, convenience foods and a sedentary lifestyle pose a health threat for all age groups. Young people need to be supported in terms of both nutrition and physical activity.<sup>3</sup> Not only sedentary youth; it is important that young people who are engaged in sports and receive training on this subject are fed properly. When the nutritional balance is not planned well, regardless of the type of sport, it affects the individual negatively, and the desired efficiency cannot be obtained from the sport. Nutrition in sports, which has turned into a separate science, has enabled the nutrient relationships to improve sports performance to be examined and to reach reliable results.<sup>4, 5, 29, 30</sup> While nutrition and sports are very related to each other, the knowledge level of our bright young people who represent our country in the field of sports and will contribute to the spread of sports in our country is very important. Considering that students studying in the field of sports sciences will inform and guide the society about sports, it is important that they integrate the nutrition-sports pair, which is essential for health, and adapt them in a correct and balanced way in their own lives and present them effectively to the society. When the literature is scanned, many scientific studies have been conducted on the nutritional habits of young people in terms of health. In the studies on the nutrition knowledge of the students of the sports sciences department; It was concluded that sports science students do not have sufficient knowledge about nutrition, the nutrients they take in relation to the performance of the athletes and the nutritional components of the foods taken should be added to the course content in more detail and they recommended that the nutrition course be given as a compulsory course in the first year of the university.<sup>4, 6</sup> In a study conducted on university students who do active sports, there were significant differences in nutritional knowledge between people who do team sports and those who do individual sports.<sup>4</sup> Various nutrition courses in the curriculum of our universities' sports science departments are offered to university youth as compulsory and optional. The aim of this research is to determine whether the nutrition lessons taken affect the students, to what extent the students adapt the learned nutrition information to their lives, whether there is a relationship between the sports branch and nutrition information, whether there is a relationship between body mass index grouping and nutrition information.

## 2. MATERIALS AND METHODS

### 2.1. Participants Groups

In the study, the general survey model was preferred by using the quantitative research method. The study was carried out on the basis of the volunteerism of the participants. The study group consisted of students and graduates of the faculty of sports sciences. A total of 202 people, 125 (61.9%) men and

77 (38.1%) women, aged  $23.21 \pm 3.31$  years, participated in the study. Age of graduates participating in the study is  $24.93 \pm 2.65$  years, body weight is  $70.22 \pm 10.86$  kg, height is  $174.18 \pm 7.99$  cm, age of student individuals is  $21.52 \pm 3.02$  years, body weight He is  $65.41 \pm 11.87$  kg, and his height is  $172.71 \pm 8.35$  cm.

### 2.2. Data Collection Tools and Data Collection

In the first part of the data collection tool prepared in the research, the personal information of the participants was asked. In the second part, "Basic Nutrition Information" scale, in the third part "Food Preference" scale was asked. The factual questionnaire containing personal information consists of 16 questions in total. Multiple choice and open-ended questions were included in the questionnaire in which personal information was asked. The height and body weights of the participants were submitted by themselves. Body mass indexes (BMI) were calculated with the given body weight and height information ((BMI) = Body Weight (kg.) / Height squared ( $m^2$ )). According to the BMI values of the participants, those below  $18.5 \text{ kg/m}^2$  are in the 'weak' group, those with a value of  $18.5-24.9 \text{ kg/m}^2$  are in the 'normal' group, and  $25.0 \text{ kg/m}^2$ . Those above the value are included in the 'slightly obese-obese' group.<sup>7</sup> The YETBi D scale was used to measure the nutritional knowledge level. The applied scale consists of two parts; 20 items in the "Basic nutrition and food-health relationship" scale section and 12 items in the "Food preference" scale section. "Cronbach's Alpha", which is the internal reliability coefficient of the sections in the nutrition knowledge level scale for adults, was calculated. The internal reliability coefficient of 20 items in the "basic nutrition" title was Cronbach's Alpha=0.72, and the internal reliability coefficient of 12 items in the "nutritional preference" title was Cronbach's Alpha=0.74.<sup>8</sup> Those who score less than 45 in the basic nutrition section will be included in the bad grouping of nutritional knowledge, those between 45-55 will be in the middle grouping, those between 56-65 will be in the good grouping, and those over 65 will be in the very good grouping. Those who score less than 30 in the food preference section will be included in the bad grouping, those between 30-36 will be in the medium grouping, those between 37-42 will be in the good grouping, and those above 42 will be in the very good grouping.<sup>8</sup> This study was decided to be ethically appropriate as a result of the application dated 01.01.2022 and numbered 2022-01-02 from the Scientific Research and Publication Ethics Committee of Sivas Cumhuriyet University.

## 3. STATISTICAL ANALYSIS

The collected data were analyzed using the SPSS 22 package program. Data on variables such as age, height, and body weight of the participants were analyzed descriptively. The Kolmogorov-Smirnov test was used for the normality tests of the values taken from the data, since the sample group was larger than 50. One-Way Analysis of Variance (ANOVA) and Depended t test were used because the data showed normal distribution. The homogeneity of the data was performed using the Scheffe and Hochberg GT2 test and the Post-Hoc multiple comparison test. Pearson Correlation test was used to determine the relationship between the nutritional knowledge levels of the individuals participating in the study and their age groups, since the data showed a normal distribution. Statistical values were evaluated at 95% confidence interval and  $p<0.05$  and  $p<0.01$  significance levels.

#### 4. RESULTS

The body weight of the individuals participating in the study was  $67.80 \pm 11.60$ , the height was  $173.44 \pm 8.19$ , and the BMI

(Body mass index) was  $22.04 \pm 2.67$ . Participants' Nutrition Knowledge Level for Adults (YETBID) total score was  $73.31 \pm 8.25$  and food preference (BT) total score was  $47.07 \pm 6.24$ .

**Table 1: BMI, YETBID and BT total scores of the participants by gender**

	Gender	N	Mean $\pm$ Std. Deviation	t	p
<b>YETBID</b>	Male	125	$72,24 \pm 8,34$	-2,391	0,018
	Female	77	$75,06 \pm 7,83$		
<b>BT</b>	Male	125	$46,38 \pm 6,24$	-2,016	0,045
	Female	77	$48,19 \pm 6,13$		
<b>BMI</b>	Male	124	$23,31 \pm 2,44$	6,794	0,0001
	Female	77	$20,93 \pm 2,36$		

When the BMI, YETBID and BT total scores of all participants were compared according to the table, a significant difference was found between men and women ( $p<0.05$ ). A significant

difference in YETBID and BT total scores was found in favor of female participants. BMI was higher in males than females (Table 1).

**Table 2: BMI, YETBID and BT total scores of graduates and students**

		N	$\bar{x} \pm$	t	p
<b>YETBID</b>	Graduate	100	$76,79 \pm 8,40$	6,487	<b>0,0001</b>
	Student	102	$69,91 \pm 6,52$		
<b>BT</b>	Graduate	100	$47,82 \pm 5,88$	1,687	0,093
	Student	102	$46,34 \pm 6,53$		
<b>VKI</b>	Graduate	100	$23,02 \pm 2,29$	3,365	<b>0,001</b>
	Student	102	$21,79 \pm 2,88$		

According to the table, when the BMI and YETBID total scores of graduates and students were compared, a significant difference was found between graduates and students ( $p<0.05$ ). A significant difference in the YETBID total score

was found to be in favor of graduates. BMI was found to be higher in graduates compared to students. No significant difference was found when BT total scores were compared ( $p>0.05$ ) (Table 2).

**Table 3. Total scores by graduate and grade level**

		N	$\bar{x} \pm$	F	p	Post-Hoc
<b>YETBID</b>	Graduate (A)	100	$76,79 \pm 8,40$	22,586	0,0001	A>B ( $p=0,0001$ )
	1.- 2. Grade (B)	53	$68,77 \pm 6,09$			
	3.- 4. Grade (C)	49	$71,14 \pm 6,81$			
	Total	202	$73,31 \pm 8,25$			
<b>BT</b>	Graduate (A)	100	$47,82 \pm 5,88$	8,840	0,0001	A>B ( $p=0,001$ )
	1.- 2. Grade (B)	53	$44,15 \pm 6,37$			
	3.- 4. Grade (C)	49	$48,71 \pm 5,89$			
	Total	202	$47,07 \pm 6,24$			

When the total scores were evaluated according to the table, a high level of significant difference was found between the 1st, 2nd, 3rd and 4th grades in both YETBID and BT ( $p<0.05$ ). In the YETBID multiple comparison, the significant difference is between the graduates and the 1st - 2nd year and 3rd - 4th year ( $p<0.05$ ). The significant difference is in favor of

graduates. In BT multiple comparison, the significant difference is between the graduates and the 1st- 2nd year, and the significant difference is in favor of the graduates ( $p<0.05$ ). In addition, a significant difference was found between the 1st and 2nd grades, in favor of the 3rd and 4th grades ( $p<0.05$ ) (Table 3).

**Table 4: Total scores according to the status of taking a nutrition**

	Status of taking a nutrition lesson	N	$\bar{x} \pm$	t	p
<b>YETBID</b>	Students who Taking courses	144	$74,90 \pm 8,43$	4,528	<b>0,0001</b>
	Students who Not taking courses	58	$69,36 \pm 6,26$		
<b>BT</b>	Students who Taking courses	144	$47,81 \pm 5,90$	2,713	<b>0,007</b>
	Students who Not taking courses	58	$45,22 \pm 6,73$		

When the total scores of the participants were evaluated according to the status of taking courses, a significant difference was found in favor of those who took courses in both YETBID and BT ( $p<0.05$ ) (Table 4).

**Table 5: Total scores of all participants by department**

		N	$\bar{x} \pm$	F	p
<b>YETBID</b>	Physical Education and Sports Teaching	47	75,21±7,08		
	Coaching	78	72,47±8,28		
	Sports Management	77	73,01±8,77	1,711	0,183
	Total	202	73,31±8,25		
<b>BT</b>	Physical Education and Sports Teaching	47	48,23±6,14		
	Coaching	78	46,17±6,39		
	Sports Management	77	47,27±6,09	1,659	0,193
	Total	202	47,07±6,24		

When the YETBID and BT total scores of all participants according to the departments were examined, no significant difference was found ( $p>0.05$ ) (Table 5).

**Table 6. Exercising status of the participants and their YETBID and BT total scores**

	Status of exercising	N	$\bar{x} \pm$	t	p
<b>YETBID</b>	Doing exercises	161	72,59±8,18	-2,513	0,013
	Not doing exercises	41	76,17±7,96		
<b>BT</b>	Doing exercises	161	46,97±6,49	-0,446	0,656
	Not doing exercises	41	47,46±5,20		

Considering the YETBID total score according to the exercise status, a significant difference was found in favor of those who did not exercise ( $p<0.05$ ). No significant difference was found in the BT total score ( $p>0.05$ ) (Table 6).

**Table 7. Actively licensed sports status**

	Actively licensed sports status	N	$\bar{x} \pm$	t	p
<b>YETBID</b>	Athlete who has a license	82	73,43±8,77	0,174	0,862
	Athlete who does not have a license	120	73,23±7,90		
<b>BT</b>	Athlete who has a license	82	46,79±6,43	-0,528	0,598
	Athlete who does not have a license	120	47,26±6,13		

When the active sports status of the participants was examined, no significant difference was found in the total scores of YETBID and BT ( $p>0.05$ ) (Table 7).

**Table 8. YETBID and BT total scores according to team and individual sports players**

	Sport Branch	N	$\bar{x} \pm$	t	p
<b>YETBID</b>	Team Sports	129	74,36±8,73	2,700	0,008
	Individual Sports	62	71,16±7,11		
<b>BT</b>	Team Sports	129	46,79±6,12	-0,959	0,339
	Individual Sports	62	47,70±6,35		

Considering the YETBID total score of the participants who do team sports and individual sports, a significant difference was found in favor of those who do team sports ( $p<0.05$ ). There was no significant difference in BT total score ( $p>0.05$ ) (Table 8).

**Table 9. YETBID and BT total scores according to BMI classification**

		N	$\bar{x} \pm$	f	p
<b>YETBID</b>	Below 18.5 Underweight	12	74,25±6,60		
	18.5–24.9 Normal weight	155	73,05±7,98		
	25.0–29.9 Pre-obesity	34	74,41±9,93	0,451	0,638
	Total	201	73,35±8,25		
<b>BT</b>	Below 18.5 Underweight	12	46,66±6,67		
	18.5–24.9 Normal weight	155	47,27±6,30		
	25.0–29.9 Pre-obesity	34	46,35±6,03	0,330	0,719
	Total	201	47,08±6,26		

There was no significant difference in the total scores of YETBID and BT according to the BMI classification of the participants ( $p>0.05$ ) (Table 9).

**Table 10. The relationship between age and YETBID and BT total scores**

Age	YETBID		BT
	r	0,295**	
	P	0,0001	
N		202	202

\*\*. Correlation is significant at the 0.01 level (2-tailed).

According to the table, a highly significant positive difference was found between age and YETBID and BT total scores ( $p<0.05$ ) (Table 10).

## 5. DISCUSSION

The aim of this study is to investigate the nutritional knowledge levels of the students and graduates of the faculty of sports sciences. According to the results of this study, when the basic nutrition and nutrition-health knowledge and food preferences were evaluated in terms of gender, a significant difference was found between men and women. Basic nutrition ( $n = 77$ ,  $75.06 \pm 7.83$  points) and food preference ( $n = 77$ ,  $48.19 \pm 6.13$  points) scores of female participants were found higher compared to males (YETBID  $n=125$ ,  $72.24 \pm 8.34$  score; BT  $n=125$ ,  $46.38 \pm 6.24$  points) (Table 1). There are existing studies of nutritional knowledge on men and women. Of these, in the study of Vázquez-Espino et al. (2022), female football players playing in the football team ( $n = 30$ ,  $31.8 \pm 3.52$  points) had a higher nutritional knowledge score than male football players ( $n = 42$ ,  $26.4 \pm 2.42$  points), but no significant difference was found.<sup>10</sup> In the study of Spronk et al. (2015), female athletes significantly outperformed and scored better than men in terms of knowledge of nutrient sources.<sup>11</sup> This finding may reflect less interest in healthy eating in studies of the non-athlete population and athletes.<sup>11-14</sup> As stated in the studies in the literature, there is a common opinion that the level of nutritional knowledge is higher in women.<sup>9-14</sup> This may be due to the fact that the age of the participants in this study ( $23.21 \pm 3.31$  years) was in the period to take care of their physical appearance. We can also assume that women today use social media resources more than men in terms of appearance. This may suggest that women are more informed about nutrition. In the study, when the BMI and YETBID total scores of graduates and students were compared, a significant difference was found between graduates and students. A significant difference in the YETBID total score was found to be in favor of graduates. MI was found to be higher in graduates compared to students. No significant difference was found when BT total scores were compared. BT mean scores of graduates ( $n = 100$ ,  $47.82 \pm 5.88$  points) were higher than students ( $n = 102$ ,  $46.34 \pm 6.53$  points) (Table 2). It is thought that the fact that the graduates have higher nutritional knowledge than the student individuals may be due to the fact that not all of the students in the student group have taken nutrition lessons yet, and that the level of nutrition knowledge is positively affected as time passes, depending on the age of the graduates (Table 10). As a matter of fact, when the total scores according to the graduate and grade level were compared in Table 3; in this study, a high level of significant difference was found between the 1st, 2nd, 3rd and 4th grades in YETBID and BT. In the YETBID multiple comparison, the significant difference is between the graduates and the 1st - 2nd year and 3rd - 4th year. The significant difference is in favor of graduates. In BT multiple comparison, the significant difference is between the 1st and 2nd year graduates, and the significant difference is in favor of the graduates. In addition, a significant difference was found between the 1st and 2nd grades, in favor of the 3rd and 4th grades (Table 3). This shows the result that the higher the grade level, the higher the

average nutritional knowledge level. It may be due to the fact that the students take the nutrition course at the next grade level and that there may be content related to nutrition in the faculty of sports sciences. When the literature is examined, Gönenç-Solsun (2021)<sup>31</sup> found a significant difference between the nutritional knowledge level scores of the participants according to the class they are studying. She stated that this difference was due to the high median score of 4th grade students' nutritional knowledge level. We can state that there are studies in the literature that have reached different results. Of these; the study conducted by Hornstrom et al. (2011) it was reported that no significant result was found when the athletes' grades were compared with their nutritional knowledge scores.<sup>15</sup> In another study, the knowledge level of athlete nutrition of student athletes was found to be insufficient and it was stated that there was no relationship between them and the grade level.<sup>16</sup> When the total scores of the participants were evaluated according to the status of taking a nutrition course, a significant difference was found in favor of those who took the course in both basic nutrition and nutrition-health knowledge and food preference (Table 4). Which is the expected result. The fact that the participants in this study have nutritional knowledge is a sign that they also pay attention to health literacy. When we look at similar studies, it was emphasized by Devlin and Belski (2015) that potential nutrition education was effective in participants who took courses on the carbohydrate and protein content of foods.<sup>17</sup> Vázquez-Espino et al. (2022), in their study on nutrition knowledge, according to the results of their study on athletes, college students, philosophy students, technical staff working in teams, and nutrition dietetics students were the nutrition dietetic students with the highest nutritional knowledge. In addition, a significant difference was found in the nutritional knowledge level in favor of nutrition dietetics students.<sup>10</sup> The common idea that emerged from this study and the other study is that nutrition education has an effect on individuals' nutritional knowledge. In our study when the YETBID and BT total scores of all participants according to the departments in the study were examined, no significant difference was found (Table 5). The absence of a significant difference may be due to the fact that the students studying in these departments take optional or compulsory nutrition courses. Dalbudak et al. (2021), in their study on individuals studying at the Faculty of Sports Sciences, Department of Physical Education and Sports Teaching, Sports Management and Coaching, did not show a statistically significant difference in attitudes, knowledge, anxiety and interests about adequate and balanced nutrition according to the department they studied.<sup>18</sup> Considering the YETBID total score according to the exercise status, a significant difference was found in favor of those who did not exercise. No significant difference was found in the BT total score (Table 6). It can be said that the opposite result was obtained in the study. The expected result was that the individuals who exercised had a high level of nutritional knowledge. However, it may be due to the different sample groups of the individuals participating in the study and

the fact that the participants with high nutritional knowledge levels consisted of individuals who did not exercise. In addition, we can say that individuals who do and do not exercise have a high average of nutritional knowledge and both groups have a high level of nutritional knowledge. When we look at similar studies, Sedek and Yih (2014) stated in their study that the nutritional knowledge levels of the athletes who exercise ( $83.7 \pm 6.84$ ) and the individuals who do not exercise ( $83.5 \pm 6.23$  points) are at a good level in both groups.<sup>19</sup> There are studies in which individuals who exercise have better nutritional knowledge than those who do not exercise.<sup>20,21,22</sup> When the active sports status of the participants was examined, no significant difference was found in the total scores of YETBID and BT (Table 7). In addition, it was determined that the scores of the participants were close to each other. In this study, the fact that the scores of the individuals who actively do and do not do sports are close to each other may be due to the large number of participants who take nutrition lessons or the fact that they are in sports sciences even though they do not take nutrition lessons. When the studies on individuals who actively do or do not do sports are examined, Shifflett et al. (2002) concluded that the nutritional knowledge level of elite athletes in sports nutrition knowledge is higher than that of college-level athletes and non-athletes in the USA.<sup>23</sup> In the study of Türkeri et al. (2020), it can be said that university students who do sports pay attention to their nutritional status and eat regularly and well compared to university students who do not do sports.<sup>24</sup> Considering the YETBID total score of the participants who do team sports and individual sports, a significant difference was found in favor of those who do team sports ( $p < 0.05$ ).<sup>10</sup> No significant difference was found in the BT total score (Table 8). In their study, Spronk et al. (2015) found that the averages of team and individual athletes were close to each other in the level of nutritional knowledge and they did not find a significant difference.<sup>11</sup> Bozkurt and Nizamlioğlu (2005) evaluated the highest 10 points in their study on nutrition knowledge, and the average knowledge score of individual athletes (7.95) was significantly different from those who were engaged in team sports (7.23 points).<sup>4</sup> It has been reported in various studies that the nutritional information of athletes is also insufficient.<sup>14, 25, 26</sup> On the other hand, there are other studies that adequately determine nutritional information.<sup>27, 28</sup> Considering the importance of nutrition for both athletes and university students who do not do sports, it is necessary to increase their knowledge on nutrition. When the studies are examined, it is seen that there are no clear results on the nutritional knowledge level of team or individual athletes. While some studies mention that there is no difference, some studies have found results in favor of team or individual athletes. This may be related to the fact that the sample groups in the studies are different from each other or whether they have received nutrition education (from school, seminar,

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coaches). There was no significant difference in the total scores of YETBID and BT according to the BMI classification of the participants (Table 9). In the study, a highly significant positive difference was found between age and YETBID and BT total scores (Table 10). In the study, we can say that as the age progresses, especially the individuals who study or graduate from university become conscious about nutrition and health. Devlin and Belski (2015), in their study, did not find a relationship between nutritional knowledge and age in elite athletes. Because of this, older and more experienced players seemed to know no more than their younger peers. Also, for experienced athletes, the nutritional knowledge level was not higher than the non-athletic population despite working with a dietitian for several years.<sup>20</sup> Spronk et al. (2015) found a positive relationship between age and nutritional knowledge level in their study.<sup>11</sup>

## 6. CONCLUSION

In the study, it was revealed that the participants who took nutrition courses had high food preference and nutritional knowledge level. This situation has revealed the importance of receiving nutrition class training. With this result, this study presented to the literature that the nutritional knowledge levels of the students taking nutrition courses could be increased to good levels. In conclusion, nutrition education on proper nutrition (i.e. carbohydrates, protein and fluid) should be the main focus and priority, both in order to have an impact on public health, and to increase the performance of those who do sports and to aid recovery. It should not be neglected that they have knowledge about food sources in order to improve their nutritional quality and help them achieve an ideal body composition. Eating disorders in university students will trigger many problems. Before these problems arise, it is recommended that young people take measures that can increase their nutritional behaviors and knowledge levels from health centers or nutritionists within the universities free of charge.

## 7. AUTHORS CONTRIBUTION STATEMENT

Dr. Levent Ceylan, Mrs. Defne Ezgi Akkaya Boyraz, Mr. Saadettin Çaldırın, Mrs. Tülay Ceylan, and Dr. Hamza Küçük conceptualized and gathered the data with regard to this work. Dr. Levent Ceylan and Dr. Hamza Küçük analyzed these data and necessary inputs were given towards the designing of the manuscript. All authors discussed the methodology and results and contributed to the final manuscript.

## 8. CONFLICT OF INTEREST

Conflict of interest declared none.

- Bozkurt İ, Nizamlioğlu M. Beden eğitimi ve spor yüksekokullarında okuyan aktif spor yapan öğrencilerin beslenme alışkanlıklarının belirlenmesi ve değerlendirilmesi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Derg.* 2005;14:209-15.
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