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Original article

The Relationship between Athletes' Attitudes for Healthy Eating and Exercise Dependence

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Abstract. *Study Objectives:* This study aimed to evaluate athletes 'attitudes towards healthy eating and exercise dependence according to age, gender, sports experiment, branch and number of exercises per week, and to examine the relationship between athletes' attitudes towards healthy eating and exercise dependence. *Methods:* The universe of the study, which performed according to the relational screening model, one of the quantitative approaches, consisted of Turkish athletes in amateur sports. Besides, the sample of the study consisted of 389 athletes residing in Ankara and determined by the easily accessible sampling method. The data of the study was collected online using the Attitude Scale for Healthy Nutrition and the Exercise Dependence Scale. SPSS software was used for data analysis, independent samples t-test was used for paired comparisons, and One-way ANOVA was used for multiple comparisons. The Pearson Correlation Coefficient was used to determine the relationship between attitude towards healthy eating and exercise dependence. *Results:* It was determined that while gender, age, sports experience, and training per week affected athletes' attitudes towards healthy eating, the branch did not have any effect. Age and weekly training were effective on exercise dependence of athletes, while gender, branch and sports experience did not have any effect. There was a significant positive correlation between athletes' attitudes towards healthy eating and their exercise dependence. *Conclusion:* These results showed that as exercise dependence levels increased, their attitudes towards healthy eating also increased.

Key words: Nutrition habits, Exercise dependence, Healthy eating, Malnutrition

Introduction

For human beings, having a healthy lifestyle means maintaining normal body weight, being protected from cardiovascular diseases, increasing immunity, increasing intellectual capacities, and being able to cope properly with stress (1). Healthy nutrition and exercise are particularly important to gain these behaviours that are necessary for people to live a healthy life.

Nutrition represents the process of taking healthy and correct nutrients in the right proportions to improve and maintain health (2). According to the World Health Organization, "nutrition is the nutritional intake considered the nutritional needs of the body. Good nutrition is an adequate and balanced diet together with regular physical activity, which is the cornerstone of health" (3). Nutrition is very important for humans, as all metabolic processes depend on adequate nutrient intake. It emphasizes that nutrition not only protects health, but also protects the human body from diseases. Besides, nutrition is involved in the healing process during illness and helps the body fight against diseases (4). Adequate energy intake has been identified as the most important goal in sports nutrition to maintain activity, support muscle development and optimal body composition, and maintain ideal health (5). Moreover, the goal of a healthy diet is providing adequate and balanced nutrition (6).

Healthy nutrition is important for human health as well as for athletes' contribution to high performance. The American College of Sports Medicine (ACSM), the American Dietetic Association (ADA), and Dietitians of Canada (DC) have adopted a joint statement emphasizing that the improvement in physical activity, athlete performance and exercise is improved with proper nutrition (7, 8). Additionally, sports nutrition has emerged as a special nutrition area because athletes need to feed their bodies properly to meet the physical needs of their sports or activities (9). Therefore, a balanced diet with recommended amounts of fat, carbohydrates, protein (macronutrients), vitamins and minerals (micronutrients), and proper hydration are essential to support growth and development (10). To maximize athlete performance, both athletes and trainers must have sufficient nutritional knowledge (11).

In addition to the adequate nutritional knowledge of athletes, their attitudes towards healthy nutrition are also effective in increasing their performance. It is the likes and dislikes of objects, persons, groups, situations, or other identifiable aspects of the environment, including attitude, abstract ideas, and social policies (12). People have attitudes and opinions about all important aspects of life, including work (13). Attitude is defined as a tendency that is attributed to an individual and creates his/her thoughts, feelings and behaviours related to a psychological concept (14). Efficient exercise is as important as a healthy diet for athletes.

Exercise is a planned, structured, voluntary, continuous activity aiming to improve one or more elements of physical fitness (15). Although it has revealed by researchers that regular exercises have positive effects on individuals in many ways (16), some researchers have reported that intense and excessive exercise habits can lead to many health problems (17, 18). The individual's inability to quit when starting to exercise or encountering some emotional negativity as a result of quitting exercise is expressed as exercise dependence (19). The concept of exercise dependence was first used to describe cases of excessive attachment. Because devoted individuals organize exercise throughout their lives, and addicted individuals plan their lives according to exercise conditions (20). Adams and Kirkby (2002) have explained exercise addiction as the continuation of exercise is out of the control of the individual, the individual continuously increases the exercise in terms of intensity, frequency and duration in order to achieve the expected effect from the exercise, the inability to allocate sufficient time to the family and social environment due to the difficulty in staying away from exercise, spending time on exercise in a way that violates his responsibilities and reshaping individuals life according to his exercise habits (21). Exercise dependence is thought to involve the limit of error, where greater amounts of exercise are needed to achieve the desired effects, and withdrawal, which is characterized by negative emotional and physical states when the exercise is terminated (22, 23). Based on the review of various studies on exercise dependence, it is estimated that the prevalence in the general population is close to 3% (24). In the study conducted by İlbak and Altun (2020), it has emphasized that the level of exercise dependence of non-sedentary individuals was at the most symptomatic level (57.4%) (25). In another study, according to the data obtained with the athletes dependence scale, it was found that training duration and training frequency were associated with exercise dependence in both male and female (26).

When the literature is examined, no study was found on attitudes towards healthy eating and exercise dependence. Moreover, there is no study examining the relationship between athletes' attitudes towards healthy eating and exercise dependence. Therefore, it is thought that there is a need for research in this area. In this context, this study aimed to evaluate athletes 'attitudes towards healthy eating and exercise dependence according to age, gender, sports experiment, branch and weekly training, and to examine the relationship between athletes' attitudes towards healthy eating and exercise dependence.

Materials and Methods

This study performed according to the screening model, one of the quantitative approaches. Screening model is a research model that aims to determine a past or current situation as it exists (27). The main aim of screening models is to determine the characteristics of a group. This study is a descriptive survey in terms of examining the attitudes towards healthy eating and exercise dependence, which are dependent

variables, in terms of various demographic variables, and a relational survey study in terms of determining the relationship between these two variables. Among the general survey model types, the relational survey model is a research model that aims to determine the existence and/or degree of co-change between two or more variables (27, 28).

Research Sample

The sample of the study was collected from 409 athletes residing in Ankara and determined by the easily accessible sampling method. However, it was seen that the data of 20 athletes were incomplete and insufficient and were excluded from the scope of the study. For this reason, the research performed with a data set of 389 athletes. The demographic information about the sample group of the research was as in Table 1.

Data Collection Tools

The data in this study were collected using the personal information form prepared by the researcher, the Attitude Scale for Healthy Nutrition (ASHN) and the Exercise Dependence Scale (EDS). The data collection tools used in the study were applied online to the sample athletes via Google Forms. Data collection tools were sent to the athletes in Ankara province via e-mail.

Table 1. Demographic Information of Participants

Variables	Categories	N	%
Gender	Female	166	42,7
	Male	223	57,3
Age	16-20	145	37,3
	21-25	137	35,2
	26-30	60	15,4
	≥31	47	12,1
Branch	Individual Sport	234	60,2
	Team Sport	155	39,8
Sport experience	1-5 years	96	24,7
	6-10 years	146	37,5
	11-15 years	89	22,9
	≥16	58	14,9
Weekly Training	1 or 2	64	16,5
	3	81	20,8
	4	98	25,2
	≥5	146	37,5
	Total	389	100,0

The Attitude Scale for Healthy Nutrition

The validity and reliability studies of the scale were conducted by Tekkurşun-Demir and Cicioğlu (2019). The scale was a 5-point Likert type consisting of 21 items and 4 sub-dimensions. These sub-dimensions were named as Information on Nutrition, Emotion for Nutrition, Positive Nutrition, and Malnutrition. The ratings of the positive items in the scale were "Absolutely Disagree", "Disagree", "Undecided", "Agree", "Strongly Agree". Negative items were reverse coded (29).

The Exercise Dependence Scale

The validity and reliability studies of the scale were conducted by Tekkurşun-Demir, Hazar and Cicioğlu (2018). The scale consisted of 17 items and 3 sub-dimensions. These sub-dimensions were; Excessive Focus and Emotion Change, Postponement of Individual-Social Needs, Tolerance Development and Passion. The scale was rated from 1 to 5 as "Absolutely Disagree", "Disagree", "Undecided", "Agree" and "Strongly Agree" (30).

Data Analysis

Data analysis in the research performed using the SPSS package program. First of all, the data were arranged and transferred to the SPSS program. Then, the reverse items in the Attitude Scale for Healthy Nutrition were transformed. Arithmetic mean and standard deviation values were used to describe the data obtained in the study. To determine the methods used in the analysis of the data, the normality of the distribution of the data was tested first. Normality analyzes were made separately for the data obtained from the attitude scale for healthy nutrition and exercise dependence scale. Normal distribution tests were

performed in all sub-dimensions and sub-dimensions of both scales and it was observed that the data were normally distributed. Accordingly, independent samples t-test was used to test the effect of gender and branch variables on attitude for healthy eating and exercise dependence. One-way ANOVA was used to test the effect of age, sports history and number of exercises per week on these variables. When a significant difference was detected as a result of one-way analysis of variance, Tukey test, one of the Post-Hoc tests, was used to find the source of the difference. Moreover, Pearson Correlation Coefficient (r) was used to test the relationship between attitude towards healthy eating and exercise dependence.

Results

Results obtained from the research were presented in tables in this section.

According to Table 2, athletes' attitudes for healthy nutrition showed a significant difference according to gender in terms of both the scores obtained from the scale and the emotion for nutrition [t(387)= -2,23; p<,05] and malnutrition [t(387)= -4,61; p<,05] sub-dimensions. The attitudes of male athletes towards overall scale ($\bar{x}$= 3.84), emotion for nutrition ($\bar{x}$ = 3.04) and malnutrition ($\bar{x}$ = 4.08) were higher than female ($\bar{x}$ = 3.67; 2.86; 3.71). In terms of information on nutrition [t(387)=-1,04; p>,05] and positive nutrition [t(387)= -,96; p>,05] sub-dimensions, no significant difference was found according to gender of attitude scores towards healthy eating.

As can be seen in Table 3, the attitude scores of the athletes participating in the study from the overall scale for healthy nutrition showed a significant difference according to the age variable [F (3,388) = 3,37; p <.05]. According to the result of the Tukey test conducted on the source of the difference, it was observed that the athletes between the ages of 26-30 ($\bar{x}$ = 3.86) got higher scores than those between the ages of 16-20 ($\bar{x}$ = 3.66). As a result of the analysis performed according to the sub-dimension of the scale, it was determined that the athletes' attitude scores in the sub-dimension of emotion for nutrition [F(3,388)= 4,52; p<.05] differed significantly according to age. According to the results of the Tukey test, it was found that athletes aged 31 and older ($\bar{x}$ = 3.27) had higher attitude scores than those aged 16-20 ($\bar{x}$ = 2.81). In other sub-dimensions of the scale, it was determined that there was no significant difference according to age.

According to Table 4, the attitudes of the athletes participating in the study towards healthy nutrition did not differ significantly according to the branch in terms of both the scores they received from the scale [t(387)= -,66; p>,05] and all sub-dimensions such as Information on nutrition [t(387)= ,71; p>,05], Emotion for nutrition [t(387)= -,94; p>,05], positive nutrition [t(387)= -,48; p>,05] and malnutrition [t(387)= -1,52; p>,05].

When the data in Table 5 were examined, it can be understood that the attitude scores of the athletes

Table 2. Comparison of Athletes' Attitudes for Healthy Nutrition according to Gender

Sub-dimensions	Gender	n	$\bar{x}$	S.D.	t	p
Information on Nutrition	Female	166	4,31	,53	-1,04	,30
	Male	223	4,37	,55		
Emotion for Nutrition	Female	166	2,86	,84	-2,23	,03*
	Male	223	3,04	,76		
Positive Nutrition	Female	166	3,95	,68	-,96	,34
	Male	223	4,02	,69		
Malnutrition	Female	166	3,71	,87	-4,61	,00*
	Male	223	4,08	,72		
Scale General	Female	166	3,67	,55	-3,30	,00*
	Male	223	3,84	,46		

Table 3. Comparison of Athletes' Attitudes for Healthy Nutrition according to Age Groups

Sub-dimensions	Age Groups	n	x̄	S.D.	F	p	Difference
Information on Nutrition	16-20	145	4,26	,54	2,24	,08	
	21-25	137	4,40	,53			
	26-30	60	4,44	,52			
	≥31	47	4,32	,58			
Emotion for Nutrition	16-20	145	2,81	,76	4,52	,01*	1-4
	21-25	137	2,98	,74			
	26-30	60	3,06	,88			
	≥31	47	3,27	,89			
Positive Nutrition	16-20	145	3,93	,66	,72	,54	
	21-25	137	4,05	,65			
	26-30	60	3,98	,79			
	≥31	47	3,99	,69			
Malnutrition	16-20	145	3,82	,80	1,92	,13	
	21-25	137	3,96	,81			
	26-30	60	4,10	,79			
	≥31	47	3,94	,79			
Scale General	16-20	145	3,66	,53	3,37	,02*	1-3
	21-25	137	3,81	,48			
	26-30	60	3,86	,47			
	≥31	47	3,85	,55			

*p<,05

Table 4. Comparison of Athletes' Attitudes for Healthy Nutrition according to Sports Branches

Sub-dimensions	Sports Branches	n	x̄	S.D.	t	p
Information on Nutrition	Individual Sport	234	4,36	,54	,71	,48
	Team Sport	155	4,32	,55		
Emotion for Nutrition	Individual Sport	234	2,94	,87	-,94	,35
	Team Sport	155	3,01	,68		
Positive Nutrition	Individual Sport	234	4,00	,67	,48	,64
	Team Sport	155	3,97	,69		
Malnutrition	Individual Sport	234	3,87	,84	-1,52	,13
	Team Sport	155	4,00	,75		
Scale General	Individual Sport	234	3,75	,53	-,66	,51
	Team Sport	155	3,79	,47		

participating in the study from the scale regarding healthy nutrition showed a significant difference according to the sports experience variable [F (3,388) = 5.13; p <.05]. According to the results of the Tukey test conducted on the source of the difference, it was observed that athletes with a sports experience of 1-5 years (x̄=3,61) received lower scores than those with a sports experience of 11-15 years (x̄=3,85) and 16 years or more (x̄=3,88). As a result of the Tukey test, it was concluded that athletes with a sports experience of 1-5

Table 5. Comparison of Athletes' Attitudes towards Healthy Nutrition according to Sports Experience

Sub-dimensions	Sports Experience	n	x̄	S.D.	F	p	Difference
Information on Nutrition	1-5 years	96	4,20	,55	3,53	,02*	1-3
	6-10 years	146	4,36	,53			
	11-15 years	89	4,44	,51			
	≥16 years	58	4,40	,57			
Emotion for Nutrition 1-4	1-5 years	96	2,74	,78	4,46	,00*	1-2
	6-10 years	146	3,01	,78			
	11-15 years	89	2,99	,75			
	≥16 years	58	3,19	,88			
Positive Nutrition	1-5 years	96	3,96	,64	1,07	,36	
	6-10 years	146	3,96	,72			
	11-15 years	89	4,10	,65			
	≥16 years	58	3,93	,70			
Malnutrition 1-4	1-5 years	96	3,71	,87	4,56	,00*	1-3
	6-10 years	146	3,91	,81			
	11-15 years	89	4,06	,76			
	≥16 years	58	4,12	,67			
Scale General 1-4	1-5 years	96	3,61	,52	5,13	,00*	1-3
	6-10 years	146	3,77	,54			
	11-15 years	89	3,85	,45			
	≥16 years	58	3,88	,45			

*p<,05

years constitute the main source of the difference. In the positive nutrition sub-dimension of the scale, it was found that there was no significant difference according to sports experience [F (3,388) = 1,07; p> .05].

According to Table 6, the attitude scores of the athletes participating in the study from the overall scale regarding healthy nutrition showed a significant difference according to the weekly training [F (3,388) = 11,48; p <.05]. As a result of the analysis made according to the sub-dimensions of the scale, it was found that the athletes' attitude scores differed significantly according to the weekly training as information on nutrition [F (3,388) = 8,52; p <.05], emotion towards nutrition [F (3,388) = 4.46; p <.05], positive nutrition [F (3,388) = 9.66; p <.05] and malnutrition [F (3,388) = 4.10; p <.05] in all sub-dimensions.

According to Table 7, the exercise dependence status of the athletes participating in the study did not differ significantly by gender in terms of both their scores from the scale [t(387)= -1,15; p>,05], excessive focus and emotional change [t(387)=-1,40; p>,05], postponement of individual-social needs [t(387)= -,38; p>,05], Tolerance Development and Passion [t(387)= -1,12; p>,05].

When the data in Table 8 were examined, it can be understood that the scores of the athletes participating in the study from the overall scale regarding exercise dependence showed a significant difference according to the age variable [F(3,388)= 3,79; p<.05]. According to the results of the Tukey test conducted on the source of the difference, it was observed that the exercise dependence of athletes between the ages of 16-20 (x̄ = 3.54) was higher than those in the 26-30 age range (x̄ = 3.27). As a result of the analysis performed according to the sub-dimensions of the scale, it was determined that the exercise dependence of the athletes significantly differed according to the age in the postponement of individual-social needs

Table 6. Comparison of Athletes' Attitudes for Healthy Nutrition according to the Weekly Training

Sub-dimensions	Weekly Training	n	x̄	S.D.	F	p	Difference
Information on Nutrition	1 or 2	64	4,15	,48	8,52	,00*	1-4
	3	81	4,26	,52			
	4	98	4,30	,55			
	5 and above	146	4,51	,53			
Emotion for Nutrition	1 or 2	64	2,65	,67	4,46	,00*	1-2
	3	81	3,02	,84			
	4	98	2,96	,86			
	5 and above	146	3,07	,76			
Positive Nutrition	1 or 2	64	3,66	,63	9,66	,00*	1-3
	3-4						
	3	81	3,93	,67			
	4	98	3,96	,67			
	5 and above	146	4,18	,66			
Malnutrition	1 or 2	64	3,67	,78	4,10	,01*	1-4
	3	81	3,96	,64			
	4	98	3,86	,94			
	5 and above	146	4,07	,78			
Scale General	1 or 2	64	3,49	,44	11,48	,00*	1-2
	3	81	3,76	,45			
	4	98	3,73	,58			
	5 and above	146	3,92	,47			

*p<,05

Table 7. Comparison of Exercise Dependence Status of Athletes according to Gender

Sub-dimensions	Gender	n	x̄	S.D.	t	p
Excessive Focus and Emotion Change	Female	166	3,92	,59	-1,40	,16
	Male	223	4,01	,57		
Postponement of Individual-Social Needs	Female	166	2,86	,80	-,38	,71
	Male	223	2,89	,72		
Tolerance Development and Passion	Female	166	3,26	,97	-1,12	,26
	Male	223	3,36	,83		
Scale General	Female	166	3,39	,64	-1,15	,25
	Male	223	3,46	,53		

[F(3,388)= 6,38; p<.05] and tolerance development and passion [F(3,388)= 4,51; p<.05] sub-dimension. As a result of the Tukey test, it was concluded that athletes between the ages of 16-20 constitute the main source of the difference. It was found that there was no significant difference according to age in the excessive focus and emotional change sub-dimension of the scale [F (3,388) =, 23; p> .05].

According to Table 9, the exercise dependence status of the athletes participating in the study did not

Table 8. Comparison of Exercise Dependence Status of Athletes according to Age Groups

Sub-dimensions	Age Groups	n	x̄	S.D.	F	p	Difference
Excessive Focus and Emotion Change	16-20	145	3,99	,57	,23	,88	
	21-25	137	3,95	,56			
	26-30	60	3,95	,63			
	≥31	47	4,01	,60			
Postponement of Individual-Social Needs	16-20	145	3,06	,70	6,38	,00*	1-3
	21-25	137	2,84	,79			
	26-30	60	2,61	,76			
	≥31	47	2,75	,62			
Tolerance Development and Passion 1-4	16-20	145	3,47	,85	4,51	,00*	1-3
	21-25	137	3,36	,91			
	26-30	60	3,07	,94			
	≥31	47	3,05	,82			
Scale General	16-20	145	3,54	,56	3,79	,01*	1-3
	21-25	137	3,42	,60			
	26-30	60	3,27	,59			
	≥31	47	3,34	,51			

*p<,05

Table 9. Comparison of Exercise Dependence Status of Athletes according to Sports Branches

Sub-dimensions	Sports Branches	n	x̄	S.D.	t	p
Excessive Focus and Emotion Change	Individual Sport	234	3,99	,58	,83	,41
	Team Sport	155	3,94	,57		
Postponement of Individual-Social Needs	Individual Sport	234	2,87	,79	-,22	,83
	Team Sport	155	2,89	,70		
Tolerance Development and Passion	Individual Sport	234	3,28	,87	-,93	,35
	Team Sport	155	3,37	,93		
Scale General	Individual Sport	234	3,43	,58	-,09	,93
	Team Sport	155	3,43	,58		

differ significantly according to the branch in terms of both their scores from the scale and all sub-dimensions such as excessive focus and emotional change [t(387)=,83; p>,05], postponement of individual-social needs [t(387)= -,22; p>,05], and tolerance development and passion [t(387)= -,93; p>,05].

As can be seen in Table 10, the exercise dependence status of the athletes participating in the study did not differ significantly from the sports experience in terms of both the scores they obtained from the scale [F(3,388)= ,65; p>.05], excessive focus and emotional change [F(3,388)= ,92; p>.05], postponement of individual-social needs [F(3,388)= 1,83; p>.05], tolerance development and passion [F(3,388)= 1,27; p>.05].

According to Table 11, the scores of the athletes participating in the study from the overall scale regarding exercise dependence showed a significant difference according to the weekly training [F (3,388) = 8,89; p <.05]. As a result of the analysis performed according to the sub-dimensions of the scale, it was found that the exercise dependence scores of the athletes differed significantly according to the weekly training in all sub-dimensions, including excessive focus

Table 10. Comparison of Exercise Dependence Status of Athletes according to Sports Experience

Sub-dimensions	Sports Experience	n	x̄	S.D.	F	p
Excessive Focus and Emotion Change	1-5 years	96	3,90	,60	,92	,43
	6-10 years	146	4,02	,55		
	11-15 years	89	3,95	,54		
	≥16	58	4,01	,66		
Postponement of Individual-Social Needs	1-5 years	96	2,93	,86	1,83	,14
	6-10 years	146	2,89	,72		
	11-15 years	89	2,94	,73		
	≥16	58	2,67	,65		
Tolerance Development and Passion	1-5 years	96	3,35	,97	1,27	,28
	6-10 years	146	3,40	,82		
	11-15 years	89	3,20	,91		
	≥16	58	3,21	,88		
Scale General	1-5 years	96	3,43	,66	,65	,58
	6-10 years	146	3,47	,56		
	11-15 years	89	3,42	,55		
	≥16	58	3,35	,52		

Table 11. Comparison for Exercise Dependence Status of Athletes according to Weekly Training

Sub-dimensions	Weekly Training	n	x̄	S.D.	F	p	Difference
Excessive Focus and Emotion Change 2-4	1 or 2	64	3,75	,49	6,85	,00	1-4
	3	81	3,88	,59			
	4	98	3,98	,56			
	≥5	146	4,11	,59			
Postponement of Individual-Social Needs	1 or 2	64	2,59	,70	5,76	,00	1-4
	3	81	2,84	,80			
	4	98	2,86	,66			
	≥5	146	3,04	,77			
Tolerance Development and Passion	1 or 2	64	3,02	,83	4,80	,00	1-4
	3	81	3,24	,83			
	4	98	3,29	,82			
	≥5	146	3,50	,96			
Scale General 1-4 2-4	1 or 2	64	3,17	,49	8,89	,00	1-3
	3	81	3,37	,61			
	4	98	3,42	,55			
	≥5	146	3,59	,57			

*p<,05

and emotion change [F(3,388)=6,85; p<.05], postponement of individual-social needs [F(3,388)= 5,76; p<.05], tolerance development and passion [F(3,388)= 4,80; p<.05]. When the arithmetic mean scores were examined, as the number of weekly training increased, exercise dependence scores increased.

When table 12 was investigated, it was seen that there was a positive significant relationship between

Table 12. Correlation Values Regarding the Relationship Between Attitudes for Healthy Eating and Exercise Dependence

Scales	Sub-dimensions	1	2	3	4	5	6	7	8	9
Attitude Scale for Healthy Nutrition	1. Information on Nutrition	1,00	,18**	,49**	,37**	,63**	,43**	,01	,20**	,25**
	2. Emotion for Nutrition		1,00	,18**	,48**	,73**	,15**	-,09	-,04	,00
	3. Positive Nutrition			1,00	,37**	,66**	,40**	,06	,24**	,28**
	4. Malnutrition				1,00	,80**	,17**	-,31**	-,07	-,10
	5. ASHN General					1,00	,37**	-,14**	,09	,12*
Exercise Dependence	6. Excessive Focus and Emotion Change						1,00	,37**	,56**	,78**
	7. Postponement of Individual-Social Needs							1,00	,56**	,81**
	8. Tolerance Development and Passion								1,00	,85**
	9. EDS General									1,00

** p< ,01; * p< ,05

the attitudes of the athletes participating in the study on healthy nutrition and their exercise dependence (r= ,12; p< ,05). As a result of the investigations performed based on sub-dimensions, positive results were found between the information on nutrition and the Excessive focus and emotion change (r= ,43; p< ,01), tolerance development and passion (r= ,20; p< ,01) which they were sub-dimensions of the exercise dependence scale. There was no relationship found between information on nutrition and postponing individual-social needs (r= ,01; p> ,05) dimension. On the other hand, a positive significant relationship was found between the emotion on nutrition and excessive focus and emotion change (r= ,15; p< ,01); however, a significant relationship was not found with the other sub-dimensions of the exercise dependence scale. While meaningful relationships were seen in the positive nutrition sub-dimension of the attitude towards healthy nutrition scale and excessive focus and emotion change (r= ,40; p< ,01), tolerance development and passion (r= ,24; p< ,01) sub-dimensions of exercise dependence scale, no relationship was found between postponing individual-social needs (r= ,06; p> ,05) dimension. Finally, there were positive differences between malnutrition sub-dimension and excessive focus and emotional change (r= ,17; p< ,01), and between postponing individual-social needs (r= -,31; p< ,05) relationship was seen; however, there was no relationship between tolerance development and passion (r= -,07; p> ,05) sub-dimension.

Discussion and Conclusion

This study examined active athletes' attitudes for healthy nutrition and exercise dependence levels in terms of gender, age, branch, sports experience, and weekly training, and the relationship between these variables was tested.

In the study, when the attitudes of athletes for healthy nutrition were examined in terms of gender, it was seen that male athletes had higher nutritional feelings and attitudes towards malnutrition in general than women. It can be said that this situation was related to the interest of male athletes in their jobs; they have more information on nutrition, they consider the damages of unhealthy nutrition and its negative effects on performance more than female athletes. When studies examining the attitude for healthy nutrition in terms of gender variable in the literature were examined, Ulaş and Genç (2010) stated that healthy nutrition behaviours were affected by many factors such as age, gender, marital status, educational status, and socioeconomic level (31).. In another study, it was found that there

was no statistically significant difference in the nutritional knowledge and habits of elite basketball players in terms of gender (32). Results were parallel with other studies in the literature. Studies whose results differed from our study were thought to be due to the use of different scales and the difference of the sample groups.

When the athletes' attitudes towards healthy nutrition were examined according to the age variable, it was found that there was a statistically significant difference in the attitude scores they got from the overall scale according to the age variable. It was observed that athletes between the ages of 26-30 get higher scores than those between the ages of 16-20. According to the sub-dimensions of the scale, it was found that the athletes' attitude scores in the emotion for nutrition subdimension differed significantly according to age. It was found that the athletes aged 31 and over had higher attitude scores than the athletes between the ages of 16-20. In this case, it was possible to say that as the age of the athletes' increases, they pay more attention to healthy nutrition, and with the experience gained, their awareness of the importance of food in terms of both health and sports performance increases. Gökensel (2016) found that there was no statistically significant difference in the nutritional behaviour and nutritional status of the Turkish Republic of Northern Cyprus volleyball federation players in terms of the age variable, contrary to this study (33). Studies examining the attitude towards healthy nutrition in terms of age variable were limited in the literature. It was thought that the research would contribute to the literature in this sense.

When the athletes' attitudes towards healthy nutrition were examined according to the branch variable, there was no statistically significant difference found in the scores they got from the scale and the sub-dimensions. This situation can be explained by the necessity of healthy nutrition for athletes to be personalized; considering the nutritional contents, energy balances, and the duration, intensity, frequency, and interval of the training due to the basic differences between sports branches. In a study on the nutritional habits of students from different branches of the department of physical education, when the nutritional scores of women were examined by branches, it was found that swimmers had better nutritional habits than athletes. It was observed that women in swimming, gymnastics, judo, volleyball, archery, and taekwondo were fed "well". Also, significant differences were found between the nutritional scores of males according to the branches. Additionally, it was found that men who were engaged in athletics sport fed "well", and basketball and taekwondo players were the "worst" fed athletes (34). In another study, it was found that there were wrong practices in the nutritional behaviours of athletes in the Taekwondo branch. It was stated that this was a result of insufficient knowledge of sports nutrition. It was concluded that to increase their nutritional knowledge and to gain correct eating habits, they should receive training from experts in this field (35).

When the athletes' attitudes for healthy nutrition were examined according to the sports experience variable, it was observed that athletes who had 1-5 years of sports experience get lower scores than those with 11-15 years and 16 years or more sports experience. As a result of the analysis made according to the sub-dimensions of the scale, it was found that the athletes' attitude scores differed significantly in the knowledge about nutrition, emotion for nutrition, and malnutrition sub-dimensions according to their sports experience. This can be explained as the athletes' experience and knowledge increase also their information on nutrition increase. This can be explained by the realization that athletes understood the importance of nutrition in the life of athletes and that malnutrition negatively affects performance. When the literature was examined, no similar studies had found. In this context, it was thought that the current research would contribute to the literature.

When the athletes' attitudes towards healthy nutrition were examined according to the weekly training variable, a statistically significant difference was found according to the weekly training of the athletes who participated. When the athletes' attitudes towards healthy nutrition were examined according to the weekly training variable, it was seen that the attitude scores of the athletes participating in the study showed a statistically significant difference according to the weekly training. As a result of the analysis made according to the sub-dimensions of the scale, it was found that the athletes' attitude

scores differed statistically significantly according to the number of weekly training in all sub-dimensions, including knowledge about nutrition, emotion for nutrition, positive nutrition, and malnutrition. It was found that there was a statistically significant difference between the athletes who exercise once or twice a week and those who exercise 3, 4, 5, or more a week. This can be explained by the fact that as the frequency and intensity of exercise increased, the athletes gave importance to healthy nutrition and reflect on their knowledge, desire, awareness, and performance about healthy nutrition.

When exercise dependence of athletes was examined by gender variable, no statistically significant difference was found in terms of both the scores they received from the scale and all sub-dimensions such as excessive focus and emotional change, postponement of individual-social needs, and conflict, tolerance development and passion. This situation can be explained by the fact that all participants in the study do active sports, adopt sports as a lifestyle, and have sufficient knowledge about the definition, process, and results of the concept of exercise dependence, even though they had mastered the concept of exercise. In a study examining the exercise dependence of individuals exercising in sports centers, it was stated that gender, age, marital status, education level, the number of daily exercises, and the duration of exercise did not affect exercise dependence (36). Many studies were concluding that there was no difference between exercise dependence and gender variables. (37-39). Studies in the literature support this study.

When the exercise dependence of athletes was examined by age variable, it was found that the scores obtained from the scale regarding exercise dependence showed a statistically significant difference. It was observed that the exercise dependence of athletes between the ages of 16-20 was higher than those in the 26-30 age range. As a result of the analyzes made according to the sub-dimensions of the scale, it was found that the exercise dependence of the athletes differed significantly according to the age including the postponement of individual-social needs and the development of the conflict, tolerance development and passion sub-dimensions. It was found that the main source of the difference was created by the athletes between 16-20 ages. This indicated that exercise dependence increase as the age of the athletes decreases. The desire of young athletes to have a better physical appearance can be explained by their desire to be liked and their tendency to exercise more than necessary with the influence of their environment on them.

When the athletes' exercise dependence was examined by branch variable, the results did not differ statistically significantly according to the branch in terms of both the scores they get from the scale and all sub-dimensions such as excessive focus and emotional change, postponement of individual-social needs, and conflict, tolerance development and passion. This situation can be explained by the differences in the training of the athletes who did both individual and team sports and the practices in the inter-branch disciplines.

When the exercise dependence of athletes was examined according to the variant of sports experience, the results obtained did not statistically significantly different in terms of scores obtained from all sub-dimensions, such as excessive focus and emotional change, postponement of individual-social needs, conflict, tolerance development and passion. According to this result, it can be explained by the fact that sports experience does not affect the time allocated to social activities and the duration of exercise. Similar to this study, no significant difference was found between exercise sub-dimensions and sports experience in the study conducted by Uzun (2019) on higher education students studying sports science (40). Again, in another study, no significant difference was found between sports experience and exercise dependence sub-dimensions (41). Results were in parallel with this study.

When the exercise dependence of athletes was examined according to the weekly training variable, the scores they got from the scale show a statistically significant difference. According to the sub-dimensions of the scale, it was found that the exercise dependence scores of the athletes differed statistically significantly according to the weekly training in all sub-dimensions including excessive focus and emotional change, postponement of individual-social needs, tolerance development and passion. This can be explained as exercise dependence increased as the weekly training increased and an effort to look better physically. Costa et al. (2012) found that individuals

who exercise regularly generally had exercise dependence levels (56.1%), and it was found that those who generally exercise in the type of jogging (21.7%) and bodybuilding (25%) were more in this addicted group (39). Another study found that regular exercise in people over 30 years of age in the fitness room affects exercise dependence (42). Considered the reasons for exercising in those with a high level of exercise dependence in the studies, it was concluded that the exercise level was increased to have regular physiological problems, dissatisfaction with the appearance or desire better physical fitness (39, 43).

When the relationship between attitudes towards healthy nutrition and exercise dependence was examined, a statistically positive significant relationship was found between athletes' attitudes towards healthy nutrition and exercise dependence. As a result of the examinations performed in terms of sub-dimensions, statistically significant positive correlations were found between information on nutrition and the excessive focus and emotion change, tolerance development and passion sub-dimensions of the exercise dependence scale. On the other hand, a positive significant relationship was found between the emotion for nutrition and excessive focus and emotional change; however, no significant relationship was found with the other sub-dimensions of the exercise dependence scale. While positive relationships were observed between the positive nutrition sub-dimension of the healthy nutrition attitude scale and the extreme focus and emotional change, tolerance development and passion sub-dimensions of the exercise dependence scale, no relationship was found between postponement of individual-social needs and conflict dimension. Finally, a positive correlation was found between the malnutrition sub-dimension and excessive focus and emotional change, and a statistically negative relationship was found between postponement of individual-social needs. As a result, it showed that as their level of exercise dependence increased, their attitudes towards healthy nutrition also increased.

This research was a study conducted by collecting cross-sectional data. Therefore, longer-term and longitudinal studies should be conducted to reveal the effects of independent variables in the study on attitudes towards healthy nutrition and exercise dependence. In addition, it was necessary to carry out studies with different samples and different models to examine the subject in more depth.

Conflicts of interest: The authors declare that there is no conflict of interest in this manuscript.

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