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Research Article

The effect of physical education and sports teachers' healthy nutrition attitudes and physical activity habits on work performance

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Abstract: This study was conducted to examine the impact of physical education and sports teachers' attitudes toward healthy eating and physical activity habits on their professional performance. The sample of the study consisted of a total of 140 physical education and sports teachers working in schools affiliated with the Bingöl Provincial Directorate of National Education, including 29 women and 111 men. The measurement tool used to collect relevant data in the study consisted of four sections. The first section included demographic information, the second section comprised the Attitude Scale Toward Healthy Eating, the third section contained the Physical Activity Habit Questionnaire, and the fourth section included the Job Performance Scale. A correlation test was applied to determine the relationship between teachers' attitudes toward healthy eating, physical activity habits, and job performance dimensions. To identify the relationship between attitudes toward healthy eating, physical activity habits, and job performance sub-dimensions with certain demographic variables, skewness and kurtosis tests were initially examined. Based on the test results, the Mann-Whitney U test was applied for comparisons of independent paired groups, while the Kruskal-Wallis test was used for comparisons of independent multiple groups. Additionally, regression analysis was utilized to comprehensively examine the relationships between variables. The results were evaluated within a 95% confidence interval, with statistical significance set at $p<0.05$. The SPSS 22.0 software package was used for data analysis. As a result of the study, it was concluded that the job performance of physical education and sports teachers with positive attitudes toward healthy eating and regular physical activity habits could be positively influenced. This, in turn, is believed to indirectly enhance other variables such as job efficiency, job motivation, and overall work performance.

Keywords: Physical education and sports, physical activity, work performance, healthy nutrition.

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1. Introduction

Physical education and sports lessons are of great importance for education and training to raise more qualified people and to realize this purpose in the best way. In education and training, physical education and sports courses are effective in the development of many aspects of students (Selçuk, 2010). Teaching is a profession that has certain duties beyond cognitive needs. Positive attitude towards the profession is of great emotional importance. In addition to supporting their own cognitive development, it is important for teachers to develop a positive attitude towards the teaching profession and to have high academic competence (Dağ, 2022).

In order to improve the quality of life, people need to have proper nutrition and physical activity in order to feel better, fulfill their daily duties and responsibilities, enjoy their work and protect themselves against the negative conditions of

life (Özkatar Kaya et al., 2018). Adequate and balanced nutrition is essential to achieve and maintain optimum health. This includes establishing and maintaining eating habits by taking the nutrients the body needs in the right amounts. Nutrition is important in terms of improving the quality of life as well as protecting against diseases and supporting the healthy aging process (Baysal, 2018). The basis of nutritional goals in active individuals is adequate nutrient intake to optimize sports performance, fitness or health (Özdoğan & Özçelik 2011).

Physical activity is defined as activities that strain muscles and joints, consume energy, increase heart and respiratory rate, and cause various degrees of fatigue in daily life (Rowland & Freedson 1994; Savcı et al., 2006). It is recommended that individuals who live a sedentary life should engage in regular physical activity in order to be more active in their daily lives (Özkatar Kaya et al., 2018). Job performance is defined as how successfully a job is performed according to certain conditions or how successfully an employee completes the task assigned to him/her within a certain period of time (Bayram, 2006). Recently, one of the most important problems in organizations is to determine the extent to which employees fulfill their duties or what their job performance is. This has caused the concept of performance to gain importance rapidly in organizations (Çalık, 2003). Individual and group performance shows how successfully the goals and standards set by the organization are achieved. Organizational performance, on the other hand, refers to the total performance of the system in general. First of all, it is important for organizations to increase individual performance. Because the effectiveness of an organization can only be as high as the performance of its personnel (Geylan et al., 2018). In the light of this information, our study aimed to examine the effect of physical education and sports teachers' attitudes towards healthy nutrition and physical activity habits on their job performance on scientific basis.

2. Materials and Methods

2.1. Research Group

The study group consisted of physical education and sports teachers working in schools in the center and districts of Bingöl Provincial Directorate of National Education and participating voluntarily.

2.2. Research Design

This research is a field survey. Questionnaire technique was used to collect data in the field survey.

2.3. Data Collection

The questionnaire used to collect the relevant data in the study consisted of four sections. The first part consisted of demographic information, the second part consisted of "Attitude Scale on Healthy Eating", the third part consisted of "Physical Activity Habit Questionnaire" and the fourth part consisted of "Job Performance Scale". Table 1 shows the demographic information of the participants in the study.

Attitude Scale on Healthy Eating: In order to measure the level of attitude towards healthy nutrition, the "Attitude Scale on Healthy Nutrition" form developed by Tekkurşun Demir & Cicioğlu (2019) was used. The scale used for the purpose of our research has 4 sub-dimensions: knowledge about nutrition, feelings towards nutrition, positive nutrition and poor nutrition. There are 21 items in total in the scale designed for the purpose of our research. Of these; items 1 through 5 measure knowledge about nutrition, items 6 through 11 measure feelings towards nutrition, items 12 through 16 measure positive nutrition and items 17 through 21 measure poor nutrition. The scale is a 5-point Likert scale, and the options of the positive statements are listed as "Strongly Agree", "Agree", "Undecided", "Slightly Agree", "Strongly Disagree" and scored as 5, 4, 3, 2, 1.

Physical Activity Habit Questionnaire: The Physical Activity Habit Questionnaire developed by Baecke et al. (1982) was used to measure physical activity habits. Three sub-dimensions of the questionnaire used for the purpose of our study, namely work, sports and leisure time, were used. There are 23 items in total in the scale used for the purpose of our research. Of these, items 1 through 9 are related to work; items 10 through 19 are related to sports; and items 20 through 23 are related to leisure time.

Job Performance Scale: In order to measure the job performance levels of the participants, Sigler & Pearson (2000)'s 4 statements taken from Kirkman & Rosen (1999) were taken from research conducted by Çöl (2008). The scale used for

the purpose of our research is one-dimensional. The scale is a 5-point Likert scale, and the options of the positive statements are listed as "Strongly Agree", "Agree", "Undecided", "Slightly Agree", "Strongly Disagree" and scored as 5, 4, 3, 2, 1.

Table 1. Distribution of physical education and sports teachers participating in the study according to demographic variables.

Demographic Variables		N	%
Gender	Male	111	79.3
	Female	29	20.7
Age	24-28	20	14.3
	29-33	42	30.0
	34-38	46	32.9
	39-43	17	12.1
	44 and over	15	10.7
Marital Status	Single	87	62.1
	Married	53	37.9
Length of service in the profession?	1-5	38	27.1
	6-10	51	36.4
	11-15	35	25.0
	16-20	6	4.3
	21 and over	10	7.1
Location of the school you work at?	Center	96	68.6
	District	44	31.4
Is there a sports facility at your school?	Yes	55	39.3
	No	85	60.7
Total		140	%100

2.4. Data Analysis

The data collected through the attitude towards healthy eating, physical activity habit questionnaire and work performance scales were analyzed using the statistical package program SPSS.22 and the results were interpreted. Descriptive statistics including arithmetic mean, standard deviation, frequency and percentage distributions were presented to provide insight into demographic information and other group questions. Correlation (Spearman) test was applied to determine the relationship between the attitudes towards healthy nutrition, physical activity habits and job performance dimensions of the PES teachers. In order to determine the relationship between attitudes towards healthy eating, physical activity habits and job performance sub-dimensions and certain demographic variables, Skewness and Kurtosis tests were firstly used, and then Mann Whitney-U test was used to compare independent paired groups and Kruskal Wallis test was used to compare independent multiple groups according to the test results. If there was a difference between independent multiple variables, Mann Whitney-U test was used to determine which group or groups this difference originated from. In addition, regression analysis was used to test the relationships between variables in a holistic manner. The results were evaluated at 95% confidence interval and significance was evaluated at $p<0.05$ level.

2.5. Ethics Committee Permission

For the ethical compliance of the study, ethics committee permission was obtained from Bingöl University Institute of Health Sciences Ethics Committee with "20.03.2023 dated, 23/06 numbered, Decision: 02". Before data collection,

participants were thoroughly informed about the study through a detailed presentation and subsequently provided written consent. The research was carried out in accordance with the ethical guidelines of the Declaration of Helsinki.

3. Results

Table 2. Comparison of healthy nutrition, physical activity habits and job performance of physical education and sports teachers according to gender variable

	Sub-dimensions	Gender	N	$\bar{x}$	sd	U	P
Attitude Toward Healthy Eating Scale Sub-dimensions	Information About Nutrition	Male	111	21.73	3.473	1141.500	.013*
		Female	29	19.48	4.947		
	Feeling Towards Nutrition	Male	111	16.72	4.197	1226.000	.048*
		Female	29	18.37	3.110		
	Positive Nutrition	Male	111	17.09	4.218	1233.000	.052
		Female	29	15.51	3.225		
	Poor Nutrition	Male	111	11.72	4.542	1224.000	.047*
		Female	29	13.31	3.475		
Physical Activity Habit Questionnaire Sub-dimensions	Job Related	Male	111	28.72	2.988	1434.500	.364
		Female	29	28.34	2.364		
	Sports Related	Male	111	28.73	5.830	1313.500	.127
		Female	29	27.34	5.333		
	Related to Free Time	Male	111	12.03	2.589	1562.000	.805
		Female	29	12.13	2.183		
Attitudes towards Healthy Nutrition General Total		Male	111	67.29	7.813	1465.000	.457
		Female	29	66.68	8.220		
Physical Activity Habits General Total		Male	111	69.49	9.474	1353.500	.188
		Female	29	67.82	7.161		
Job Performance General Total		Male	111	4.10	.756	1337.000	.151
		Female	29	3.83	.954		
Total			140				

**; p<0.05, $\bar{x}$; mean, sd; standard deviation*

When Table 2 is examined, according to the gender variable of the teachers participating in the study, there was a statistically significant difference between the groups in the scores of knowledge about nutrition, feelings towards nutrition and poor nutrition, while there was no statistically significant difference between the groups in the total score of physical activity habits and its sub-dimensions and total averages of work performance.

When Table 3 is examined, according to the age variable of the teachers participating in the study, there was a statistically significant difference between the groups in the total scores of attitude towards healthy nutrition, positive nutrition, emotion towards nutrition and attitude towards healthy nutrition, while there was no statistically significant difference between the groups in the total score of physical activity habit and its sub-dimensions and total averages of work performance.

Table 3. Age-Related Variations in Nutrition, Activity, and Work Performance

	Sub-dimensions	Age	N	$\bar{x}$	Ss	Sd	x^2	P	Mann Whitney-
Attitude Toward Healthy Eating Scale Sub-dimensions	Information About Nutrition	24-28[a]	20	20.65	4.693	4	3.970	.410	
		29-33[b]	42	20.95	3.975				
		34-38[c]	46	21.39	3.186				
		39-43[d]	17	22.76	2.359				
		44 and Over[e]	15	20.93	5.762				
	Feeling Towards Nutrition	24-28[a]	20	17.95	4.501	4	22.082	.000***	a-e
		29-33[b]	42	18.88	3.171				b-e
		34-38[c]	46	16.50	3.488				b-c
		39-43[d]	17	15.70	4.209				
		44 and Over [e]	15	14.13	4.733				
	Positive Nutrition	24-28[a]	20	16.00	4.667	4	11.001	.027*	a-e
		29-33[b]	42	16.33	3.842				c-e
		34-38[c]	46	16.32	4.027				b-e
		39-43[d]	17	17.23	3.509				
		44 and Over [e]	15	19.86	3.622				
	Poor Nutrition	24-28[a]	20	13.05	4.850	4	4.990	.288	
		29-33[b]	42	12.85	4.164				
		34-38[c]	46	11.26	3.963				
		39-43[d]	17	11.35	3.516				
		44 and Over [e]	15	11.73	6.076				
Physical Activity Habit Questionnaire Sub-dimensions	Job Related	24-28[a]	20	28.10	2.425	4	2.209	.697	
		29-33[b]	42	29.02	2.771				
		34-38[c]	46	28.58	2.848				
		39-43[d]	17	28.00	2.622				
		44 and Over [e]	15	29.20	3.931				
	Sports Related	24-28[a]	20	29.60	6.532	4	3.541	.472	
		29-33[b]	42	27.66	5.908				
		34-38[c]	46	28.86	5.119				
		39-43[d]	17	27.35	5.522				
		44 and Over [e]	15	29.06	6.463				
	Related to Free Time	24-28[a]	20	11.60	2.436	4	3.898	.420	
		29-33[b]	42	12.40	2.499				
		34-38[c]	46	12.08	2.355				
		39-43[d]	17	11.23	2.194				
		44 and Over [e]	15	12.53	3.292				
Attitudes towards Healthy Nutrition General Total		24-28[a]	20	67.65	10.256	4	10.922	.026*	
		29-33[b]	42	69.02	7.906				
		34-38[c]	46	65.47	6.043				
		39-43[d]	17	67.05	5.868				
		44 and Over [e]	15	66.66	10.607				
Physical Activity Habits General Total		24-28[a]	20	69.30	9.979	4	3.515	.476	
		29-33[b]	42	69.09	8.756				
		34-38[c]	46	69.54	8.518				
		39-43[d]	17	66.58	7.834				
		44 and Over [e]	15	70.80	11.742				
Job Performance General Total		24-28[a]	20	3.92	.862	4	4.973	.290	
		29-33[b]	42	4.07	.685				
		34-38[c]	46	4.21	.706				
		39-43[d]	17	3.79	.848				
		44 and Over [e]	15	3.91	1.186				
Total			140						

**; p<0.05, $\bar{x}$; mean, sd; standard deviation*

Table 4. Work Experience and Health Behaviors in PE Teachers

	Sub-dimensions	Term of Office	N	$\bar{x}$	Ss	Sd	x^2	P
Attitude Toward Healthy Eating Scale Sub-dimensions	Information About Nutrition	1-5	38	21.39	4.030	4	2.321	.677
		6-10	51	20.94	3.916			
		11-15	35	21.85	2.365			
		16-20	6	18.66	8.164			
		21 and over	10	22.00	4.396			
	Feeling Towards Nutrition	1-5	38	17.39	4.142	4	7.326	.120
		6-10	51	17.86	3.944			
		11-15	35	16.40	4.103			
		16-20	6	15.16	3.970			
		21 and over	10	15.30	3.368			
	Positive Nutrition	1-5	38	16.68	4.899	4	3.264	.515
		6-10	51	16.23	3.712			
		11-15	35	16.88	3.529			
		16-20	6	18.50	4.764			
		21 and over	10	18.40	3.835			
	Poor Nutrition	1-5	38	11.89	4.700	4	5.844	.211
		6-10	51	12.98	4.221			
		11-15	35	11.22	4.109			
		16-20	6	13.16	6.145			
		21 and over	10	10.20	3.047			
Physical Activity Habit Questionnaire Sub-dimensions	Job Related	1-5	38	28.92	2.603	4	.607	.962
		6-10	51	28.60	2.836			
		11-15	35	28.48	3.003			
		16-20	6	28.50	2.810			
		21 and over	10	28.40	3.921			
	Sports Related	1-5	38	29.36	5.658	4	1.426	.840
		6-10	51	28.15	6.188			
		11-15	35	28.08	5.248			
		16-20	6	29.16	2.786			
		21 and over	10	27.30	7.056			
	Related to Free Time	1-5	38	11.94	2.426	4	2.543	.637
		6-10	51	12.35	2.423			
		11-15	35	11.71	2.573			
		16-20	6	13.16	2.639			
		21 and over	10	11.50	2.990			
Attitudes towards Healthy Nutrition General Total		1-5	38	67.36	9.476	4	3.722	.445
		6-10	51	68.01	6.718			
		11-15	35	66.37	7.772			
		16-20	6	65.50	9.669			
		21 and over	10	65.90	6.838			
Physical Activity Habits General Total		1-5	38	70.23	8.322	4	1.518	.823
		6-10	51	69.11	9.702			
		11-15	35	68.28	8.634			
		16-20	6	70.83	6.112			
		21 and over	10	67.20	11.811			
Job Performance General Total		1-5	38	4.06	.806	4	2.965	.564
		6-10	51	4.21	.631			
		11-15	35	4.00	.727			
		16-20	6	3.37	1.594			
		21 and over	10	3.72	1.063			
Total			140					

When Table 4 is examined, no statistically significant difference was found between the groups in the total score and sub-dimensions of attitudes towards healthy nutrition, total score and sub-dimensions of physical activity habits and total averages of work performance according to the length of service in the profession variable of the teachers participating in the study.

Table 5. Comparison of healthy nutrition, physical activity habits and job performance of physical education and sports teachers according to marital status variable

	Sub-dimensions	Marital Status	N	$\bar{x}$	SD	U	P
Attitude Toward Healthy Eating Scale Sub-dimensions	Information About Nutrition	Single	87	21.49	3.566	2218.000	.699
		Married	53	20.90	4.438		
	Feeling Towards Nutrition	Single	87	16.78	4.210	2033.500	.241
		Married	53	17.54	3.739		
	Positive Nutrition	Single	87	17.64	3.800	1566.500	.001**
		Married	53	15.33	4.136		
	Poor Nutrition	Single	87	11.27	4.333	1632.500	.004**
		Married	53	13.33	4.183		
Physical Activity Habit Questionnaire Sub-dimensions	Job Related	Single	87	28.60	3.100	2214.500	.693
		Married	53	28.69	2.461		
	Sports Related	Single	87	27.78	5.554	1892.500	.075
		Married	53	29.54	5.924		
	Related to Free Time	Single	87	11.94	2.479	2060.000	.287
		Married	53	12.24	2.556		
Attitudes towards Healthy Nutrition General Total		Single	87	67.19	6.907	1997.500	.185
		Married	53	67.13	9.315		
Physical Activity Habits General Total		Single	87	68.33	9.187	2001.000	.190
		Married	53	70.49	8.727		
Job Performance General Total		Single	87	4.06	.779	2197.500	.635
		Married	53	4.02	.852		
Total			140				

**; p<0.05, $\bar{x}$; mean, sd; standard deviation*

When Table 5 is examined, according to the marital status variable of the teachers participating in the study, there was a statistically significant difference between the groups in the positive nutrition and malnutrition scores from the sub-dimensions of attitudes towards healthy nutrition, while there was no statistically significant difference between the groups in the total score of physical activity habits and its sub-dimensions and total averages of work performance.

Table 6. Comparison of physical education and sports teachers' healthy nutrition, physical activity habits and job performance according to the location of the school where you work

	Sub-dimensions	School Location	N	$\bar{x}$	SD	U	P
Attitude Toward Healthy Eating Scale Sub-dimensions	Information About Nutrition	Center	96	21.66	3.298	1890.000	306
		District	44	20.40	4.938		
	Feeling Towards Nutrition	Center	96	17.16	3.640	2041.000	.749
		District	44	16.86	4.844		
	Positive Nutrition	Center	96	17.08	4.007	1833.500	.210
		District	44	16.09	4.180		
	Poor Nutrition	Center	96	12.07	4.314	2105.000	.975
		District	44	12.02	4.567		

**; p<0.05, $\bar{x}$; mean, sd; standard deviation*

Table 6. (Continue)

	Sub-dimensions	School Location	N	$\bar{x}$	SD	U	P
Physical Activity Habit Questionnaire Sub-dimensions	Job Related	Center	96	28.59	2.878	2093.500	.933
		District	44	28.75	2.870		
	Sports Related	Center	96	28.22	5.830	1938.000	.434
		District	44	28.93	5.575		
	Related to Free Time	Center	96	11.96	2.515	1918.500	.381
		District	44	12.25	2.497		
Attitudes towards Healthy Nutrition General Total		Center	96	67.98	7.153	1880.000	.297
		District	44	65.38	9.086		
Physical Activity Habits General Total		Center	96	68.79	9.201	1930.000	.414
		District	44	69.93	8.748		
Job Performance General Total		Center	96	4.10	.677	2001.500	.612
		District	44	3.91	1.027		
Total			140				

**; p<0.05, $\bar{x}$; mean, sd; standard deviation*

When Table 6 is examined, no statistically significant difference was found between the groups in the total score and sub-dimensions of attitude towards healthy nutrition, total score and sub-dimensions of physical activity habits and total averages of work performance according to the location of the school where the teachers participated in the study.

Table 7. Comparison of physical education and sports teachers' healthy nutrition, physical activity habits and job performance according to the variable "Is there a sports facility in the school where you work?"

	Sub-dimensions	Is there a sports facility in the school where you work?	N	$\bar{x}$	SD	U	P
Attitude Toward Healthy Eating Scale Sub-dimensions	Information About Nutrition	Yes	55	21.58	3.603	2230.000	.637
		No	85	21.07	4.110		
	Feeling Towards Nutrition	Yes	55	16.89	4.314	2269.000	.769
		No	85	17.18	3.877		
	Positive Nutrition	Yes	55	18.00	4.136	1717.000	.008**
		No	85	15.97	3.851		
	Poor Nutrition	Yes	55	11.96	4.654	2228.000	.639
		No	85	12.11	4.218		
Physical Activity Habit Questionnaire Sub-dimensions	Job Related	Yes	55	28.72	3.045	2333.500	.986
		No	85	28.58	2.761		
	Sports Related	Yes	55	28.63	5.926	2268.500	.768
		No	85	28.32	5.649		
	Related to Free Time	Yes	55	12.49	2.508	2054.500	.223
		No	85	11.77	2.475		
Attitudes towards Healthy Nutrition General Total		Yes	55	68.43	7.771	1982.000	.129
		No	85	66.35	7.875		
Physical Activity Habits General Total		Yes	55	69.85	9.546	2218.500	.611
		No	85	68.69	8.734		
Job Performance General Total		Yes	55	4.14	.690	2150.000	.413
		No	85	3.98	.869		
Total			140				

**; p<0.05, $\bar{x}$; mean, sd; standard deviation*

When Table 7 is examined, it is seen that there is a statistically significant difference between the groups only in positive nutrition scores among the sub-dimensions of attitudes towards healthy nutrition according to the variable 'Is there a sports facility in the school where you work?', and there is no statistically significant difference between the groups in the total mean scores of physical activity habits and sub-dimensions and total mean scores of work performance.

Table 8. Correlation analysis between physical education and sports teachers' attitudes towards healthy nutrition, physical activity habits and job performance levels.

		Job	Sports	Related to Free	Physical Activity Habits	Job
Information About Nutrition	r	.318	.158	.058	.206	.382
	p	.000***	.063	.498	.015*	.000***
	n	140	140	140	140	140
Feeling Towards Nutrition	r	-.048	-.031	-.021	-.060	.012
	p	.570	.719	.801	.480	.885
	n	140	140	140	140	140
Positive Nutrition	r	.260	.164	.105	.199	.235
	p	.002**	.053	.215	.018*	.005**
	n	140	140	140	140	140
Poor Nutrition	r	-.017	.236	.158	.172	-.179
	p	.841	.005**	.062	.042*	.035*
	n	140	140	140	140	140
Attitudes towards Healthy Nutrition General Total	r	.196	.277	.178	.259	.192
	p	.020*	.001***	.036*	.002**	.023*
	n	140	140	140	140	140

p<0.05, p<0.01**, p<0.001****

When Table 8 is analyzed, a statistically positive and significant relationship was found between the variables of knowledge about nutrition, which is one of the sub-dimensions of attitude towards healthy eating, and work-related (r=.31), total score of physical activity habit (r=.20) and work performance (r=.38), which are sub-dimensions of physical activity habit. A statistically positive and significant relationship was found between the positive nutrition dimension, which is one of the sub-dimensions of attitude towards healthy nutrition, and the variables related to work (r=.26), total score of physical activity habit (r=.19) and work performance (r=.23), which are sub-dimensions of physical activity habit. There was a statistically positive significant relationship between the malnutrition dimension, one of the sub-dimensions of attitudes towards healthy eating, and the variables related to sports (r=.23) and total score of physical activity habit (r=.17) among the sub-dimensions of physical activity habit, while a statistically negative significant relationship was found between work performance (r=-.17). A statistically positive and significant relationship was found between the total scores of attitude towards healthy nutrition and the variables of work-related (r=.19), sports-related (r=.27) and leisure-time-related (r=.27), physical activity habit total score (r=.25) and work performance (r=.19). A statistically positive and significant relationship was found between the total scores of work performance and the variables of work-related (r=.31), sports-related (r=.26), and leisure-time-related (r=.18) physical activity habits sub-dimensions and the total score of physical activity habits (r=.30).

Table 9. Regression analysis between physical education and sport teachers' attitudes towards healthy nutrition and job performance levels.

		Variables	Beta (ß)	S. Hata	*T*	*F*	*P*	R^2
Independent Variables	Attitudes Towards	ATHN»JP	.290	.008	3,561	12,678	.001***	.08
Dependent Variables	Job Performance							

*p<0.001****

When Table 9 is analyzed, when the results of the regression analysis conducted to determine the effect of teachers' attitudes towards healthy nutrition and job performance levels on each other are examined, it is determined that teachers' attitudes towards healthy nutrition affect their job performance at a low but positive level (R2=.08).

Table 10. Regression analysis between physical activity habits and job performance levels of physical education and sport teachers.

		Variables	Beta (ß)	S. Hata	*T*	*F*	*P*	R^2
Independent Variables	Physical Activity Habits	PAH»JP	.249	.007	3,016	9,095	.003**	.06
Dependent Variables	Job Performance							

p<0.01

When Table 10 is analysed, when the results of the regression analysis conducted to determine the effect of teachers' physical activity habits and job performance levels on each other are examined, it is found that teachers' physical activity habits affect their job performance at a low but positive level (R2=.06).

4. Discussion

This study was conducted to examine the effect of attitudes towards healthy nutrition and physical activity habits of physical education and sports teachers working in schools in the centre and districts of Bingöl Provincial Directorate of National Education on their job performance.

In the study (Table 2), when the sub-dimensions of the attitude towards healthy nutrition according to the gender variable of the physical education and sports teachers participating in the study were analysed, statistically significant differences were found between the groups among the scores of knowledge about nutrition, feelings towards nutrition and malnutrition, while no statistically significant differences were found between the groups among the total score of physical activity habit and its sub-dimensions and total averages of work performance. According to these findings, it was determined that male teachers had more knowledge about nutrition compared to female teachers, and female teachers enjoyed consuming ready-made and packaged products and unhealthy foods more and were happier. Regarding poor nutrition attitudes, it was concluded that female teachers had poor nutrition attitudes more than male teachers. It can be said that physical education and sports teachers' physical activity habits and work performance levels are similar in terms of gender variable. When the studies on healthy eating attitude according to gender variable in the literature are examined; Sargın & Güleşce (2022) concluded that male teachers had better nutritional knowledge in their study in which they examined teachers' attitudes towards healthy nutrition. Karataş (2021), Gündoğdu (2009) and Vançelik et al. (2007) concluded that the level of nutrition knowledge of female teachers was higher than male teachers. In addition, it is found that gender does not have a significant difference in the level of teachers' nutrition knowledge (Couture et al., 2015; Çongar & Özdemir 2004; Dursun, 2020; Özkan, 2021). When the studies on physical activity habits according to gender variable in the literature are examined; Santiago et al., (2012), Durukan et al., (2016), Tekkanat (2008) reported that the physical activity levels of physical education and sports teachers did not make a difference according to gender. In his study, Demir (2019) found that especially male teachers engaged in more (vigorous) physical activity than females, while Arabacı & Çankaya (2007), Tüzün (2021) and Özdöl et al. (2014) found that there were differences in the physical activity levels of physical education and sports teachers according to gender variable and that males had a higher physical activity level than females. When the studies on job performance according to gender variable in the literature are examined; there are studies in which there is no difference in the job performance levels of physical education and sports teachers according to gender variable (Şekertağ 2021; Arslan 2022; Büyükgöze & Özdemir 2017; Deniz & Demirdağ 2020; Eşsiz 2023).

According to the research findings (Table 3), when we examined the sub-dimensions of attitudes towards healthy eating according to the age variable of the physical education and sports teachers participating in the study, statistically significant differences were found between the groups in the total scores of positive nutrition, emotion towards nutrition and attitude towards healthy eating, while no statistically significant differences were found between the groups in the total score of physical activity habit and its sub-dimensions and in the total averages of work performance. According to these findings, it was concluded that positive nutrition attitude increased as the age level increased in the positive nutrition dimension, and the emotional state felt when consuming unhealthy products in the emotional

dimension towards nutrition tended to increase as the age level decreased. It can be said that physical education and sports teachers' physical activity habits and work performance levels are similar to each other in terms of age variable. When the studies on healthy nutrition according to age variable in the literature are examined, there are studies with similar or different results to our research. In the study of Dursun (2020), when the findings of the analysis of the nutritional knowledge level of physical education and sports teachers according to age distribution are examined, the mean rank of those aged 26-30 is 63.70, the mean rank of those aged 31-35 is 78.05, the mean rank of those aged 36-40 is 85.78, and the mean rank of those aged 41 and over is 76.50 and P<0.043. According to these results, the relationship between these variables is statistically significant. Karataş (2021) examined the healthy nutrition levels of individuals working in the field of sports according to their ages, and found a statistically significant difference in the malnutrition dimension under the healthy nutrition scale, and it was stated that this difference was due to the difference between the groups aged 18-22 years and 33-37 years. In addition, no statistically significant difference was found in the dimensions of knowledge about nutrition, feelings towards nutrition, positive nutrition and healthy eating general score. According to Gündoğdu (2009), it was observed that older teachers had higher average scores compared to younger teachers. In the study conducted by Sabbag (2003), it was stated that teachers between the ages of 30-39 had a good awareness of balanced nutrition. Sargın & Güleşce (2022) examined the attitudes of teachers working in Van province towards healthy nutrition and concluded that attitudes towards healthy nutrition increased with increasing age. Özkan (2021) reported that there was no significant difference between the scores of physical education and sports teachers from the eating attitude test according to age variable. When the studies on physical activity habits according to age variable in the literature are examined; Durukan et al. (2016), in a study in which physical activity levels of physical education and sports teachers were examined according to age variable, it was concluded that physical activity levels increased with increasing age, but this increase was not statistically significant. When Karataş (2021) examined the motivation levels of participation in physical activity according to the age of employees in the field of sports, no statistically significant difference was found according to the age variable. Arabacı & Çankaya (2007) stated that there was a positive relationship between physical activity and age in their study on physical education and sports teachers. They found that older people had higher physical activity levels than younger people. In a study conducted by Demir (2019), it was determined that age is an effective factor on physical activity level. A decrease in physical activity level is observed with increasing age. When the studies on job performance according to age variable in the literature are examined, Arslan (2022) reported that there was no statistically significant difference in the job performance levels of physical education and sports teachers according to age variable. In Erol (2022) study, it was determined that the mean job performance scores of amputee football referees did not differ significantly according to the age variable. In Eşsiz (2023) study, it was reported that the job performance levels of teachers did not show a significant difference according to age variable. In a study conducted by Karaçam & Adıgüzel (2019), a positive significant relationship was found between age and performance with basketball referees and it was stated that the performance of referees increased with the increase in their age. Koca & Yıldız (2018) stated that the job performance of football referees increased with increasing age and years of refereeing. It was stated that this situation can be explained by experience and it was emphasised that as the experience of the referees increases, their job performance also increases.

In the study (Table 5), according to the marital status variable of physical education and sports teachers, there was a statistically significant difference between the groups in the positive nutrition and malnutrition scores from the sub-dimensions of attitudes towards healthy nutrition, while there was no statistically significant difference between the groups in the total score of physical activity habits and its sub-dimensions and total averages of work performance. Accordingly, it can be said that single teachers have higher levels of positive nutrition attitudes than married teachers and married teachers have worse nutrition attitudes than single teachers. When the studies on healthy nutrition according to marital status variable are examined in the literature, there are studies with similar or different results to our research. Dursun (2020) and Özkan (2021) did not find a statistically significant difference in the healthy eating levels of physical education and sports teachers in terms of marital status variable. Karataş (2021) found that there was a statistically significant difference in the malnutrition dimension in his study in which the healthy nutrition levels of individuals working in the field of sports were examined according to the marital status variable. When the rank averages were taken into consideration, it was seen that the level of malnutrition of married people was higher, and it was stated that there was no significant difference in the general level of healthy eating and other sub-dimensions. Gündoğdu (2009) found that married people had higher mean scores than single people and concluded that the level

of knowledge of married people about nutrition was higher than single people. When the studies on physical activity habits according to marital status variable in the literature are examined; In the study conducted with the participation of physical education and sports teachers to examine physical activity levels, it was reported that marital status did not cause a statistical difference in physical activity levels (Durukan et al., 2016; Demir 2019). Karataş (2021) stated that there was no significant difference in the general score and sub-dimensions of participation in physical activity according to the marital status of sports employees. Arabacı & Çankaya (2007) found that physical education and sports teachers who were married had higher physical activity levels than those who were single. In his study, Tüzün (2021) found that the marital status variable caused a significant difference in physical activity levels. It was found that married participants had lower physical activity levels than single participants. When the studies on job performance according to marital status variable in the literature are examined, Şekertağ (2021) concluded that the job performance levels of physical education and sports teachers did not differ according to marital status variable and it was stated that the job performance levels of married and single teachers were similar. In his study, Eşsiz (2023) stated that the job performance levels of teachers did not show a significant difference according to the marital status variable. In a similar study, there was no significant difference between marital status and job performance (Koç et al., 2009). However, in other studies conducted for teachers, it was concluded that there were significant differences between marital status and job performance (Gede & Lawason 2011; Oselumese et al., 2016). Erol (2022), on the other hand, found that the mean job performance scores of amputee football referees did not differ significantly according to the marital status variable.

In the study (Table 4), no statistically significant difference was found between groups in terms of the total score and sub-dimensions of attitudes toward healthy eating, the total score and sub-dimensions of physical activity habits, and the overall job performance averages based on the length of service variable of physical education and sports teachers. Accordingly, it can be said that the length of service variable does not have an effect on the attitudes of physical education and sports teachers toward healthy eating, their physical activity habits, or their job performance. When examining studies in the literature on healthy eating based on the length of service variable, there are studies that have found similar or different results compared to our research. In their studies, Dursun (2020) and Özkan (2021) did not find a significant difference in the attitudes of physical education and sports teachers toward healthy eating based on their length of service. Similarly, in the study conducted by Corley et al. (1990) on university coaches' nutritional knowledge and dietary practices, no significant difference was found between nutritional knowledge and coaching experience duration. Gündoğdu (2009) and Eşsiz (2023) reported that teachers' job performance levels did not show a significant difference based on their professional working years. In the study conducted by Hacıbeyoğlu Ataünal (1976) with teachers, it was concluded that those with 21-30 years of professional experience provided the highest number of correct answers and that knowledge levels increased in parallel with professional experience. In the study by Smith-Rockwell et al. (2001), which evaluated the nutritional knowledge, opinions, and practices of university coaches and trainers, it was found that participants with 15 or more years of experience gave significantly more correct answers compared to coaches who had worked fewer years. When examining studies in the literature on physical activity habits based on the length of service variable, Durukan et al. (2016) found that as the working years of physical education and sports teachers increased, their physical activity levels also increased; however, this increase was not statistically significant. In a study conducted with the participation of physical education and sports teachers to examine physical activity and occupational burnout levels, it was reported that years of service did not create a significant difference in physical activity levels (Demir, 2019). In his study, Tüzün (2021) determined that there was a significant difference in the MET values of physical education and sports teachers according to years of seniority categories. According to this, teachers with more than 20 years of professional experience had higher MET values compared to teachers with 6-10 years and 11-15 years of seniority. When examining studies in the literature on job performance based on the length of service variable, Arslan (2022) did not find a statistically significant difference in the job performance levels of physical education and sports teachers according to their years of service. In their study, Büyükgöze & Özdemir (2017) stated that there was no differentiation in teachers' job performance based on their years of professional experience. In his research, Erol (2022) found that the average job performance scores of amputee football referees did not significantly differ according to the length of service variable. In their study, Deniz & Demirdağ (2020) reported that as professional working years increased, teacher performance decreased.

In the study (Table 6), no statistically significant difference was found between groups in terms of the total score and sub-dimensions of attitudes toward healthy eating, the total score and sub-dimensions of physical activity habits, and

the overall job performance averages based on the school location variable of physical education and sports teachers. Accordingly, it can be said that the school location variable does not have an effect on the attitudes of physical education and sports teachers toward healthy eating, their physical activity habits, or their job performance. When examining studies in the literature, no research has been found that evaluates teachers' attitudes toward healthy eating and job performance levels based on the school location variable. The results of our research will serve as a reference for future studies. Durukan et al. (2016) found a statistically significant difference when examining the physical activity levels of physical education and sports teachers based on the school location variable. It has been reported that this difference arises because teachers working in central areas have higher physical activity levels compared to those working in districts.

In the study (Table 7), a statistically significant difference was found between groups only in the positive nutrition scores, which is one of the sub-dimensions of attitudes toward healthy eating, based on the presence of a sports facility in the school where physical education and sports teachers work. However, no statistically significant difference was found between groups in terms of the total score and sub-dimensions of physical activity habits or the overall job performance averages. Based on these results, it was concluded that teachers working in schools with sports facilities have higher levels of positive nutrition attitudes. In the literature, it is mentioned that engaging in physical activity in public institutions can have a positive impact on job performance and that providing time and facilities for sports in public organizations could be beneficial for employees to exhibit higher job performance (Dere, 2022). When examining studies in the literature, no research has been found that evaluates teachers' attitudes toward healthy eating and job performance levels based on the presence of a sports facility in their school.

In the study (Table 8), correlation analyses were conducted to determine the effect of physical education and sports teachers' attitudes toward healthy eating and physical activity habits on job performance. The results showed a statistically significant positive correlation between the nutrition knowledge sub-dimension of attitudes toward healthy eating and the work-related sub-dimension of physical activity habits ($r = .31$), the total physical activity habit score ($r = .20$), and job performance ($r = .38$). A statistically significant positive correlation was also found between the positive nutrition sub-dimension of attitudes toward healthy eating and the work-related sub-dimension of physical activity habits ($r = .26$), the total physical activity habit score ($r = .19$), and job performance ($r = .23$). Additionally, a statistically significant positive correlation was observed between the poor nutrition sub-dimension of attitudes toward healthy eating and the sports-related sub-dimension of physical activity habits ($r = .23$) as well as the total physical activity habit score ($r = .17$). However, a statistically significant negative correlation was found between the poor nutrition sub-dimension and job performance ($r = - .17$). A statistically significant positive correlation was also found between the total scores of attitudes toward healthy eating and the work-related ($r = .19$), sports-related ($r = .27$), and leisure-related ($r = .27$) sub-dimensions of physical activity habits, as well as the total physical activity habit score ($r = .25$) and job performance ($r = .19$). Finally, a statistically significant positive correlation was observed between the total job performance scores and the work-related ($r = .31$), sports-related ($r = .26$), and leisure-related ($r = .18$) sub-dimensions of physical activity habits, as well as the total physical activity habit score ($r = .30$).

In the study (Table 9), regression analysis was conducted to determine the effect of physical education and sports teachers' attitudes toward healthy eating on their job performance levels. The results showed that teachers' attitudes toward healthy eating positively influenced their job performance ($R^2 = .08$) ($p < 0.001$). When examining the literature, another factor that is considered to have a direct or indirect impact on individuals' ability to engage in physical activity is their nutritional habits. It is evaluated that individuals' nutritional habits may have a significant effect on their physical activity levels and, consequently, on their job satisfaction and job performance levels (Dere, 2022).

In the study (Table 10), regression analysis was conducted to determine the effect of physical activity habits on job performance levels among physical education and sports teachers. The results indicated that teachers' physical activity habits positively influenced their job performance ($R^2 = .06$) ($p < 0.003$). When examining the literature, Kusan (2019) investigated the impact of physical activity levels on job performance among physical education and sports teachers working in public schools in Samsun. The study found that 50.98% of the participating teachers had a high level of physical activity, while 49.02% had a low level. It was also determined that there was a statistically significant difference in job performance median scores based on participants' physical activity levels, years of seniority, and fields of expertise. Accordingly, individuals with a high level of physical activity had significantly higher job performance

scores. Additionally, those with 6-10 years of seniority had significantly higher job performance median scores compared to those with 0-5 years of seniority. Furthermore, graduates from coaching programs had significantly lower job performance median scores compared to graduates from teaching and management programs. It has been reported that engaging in physical activity contributes to individuals' job performance (Can et al., 2014; Dere, 2022). Similarly, Dindar (2018) found in his study on sports employees that participation in sports activities positively affected quality of life and job performance, while non-participation had a negative impact. In the literature, no study has been found that simultaneously examines attitudes toward healthy eating, physical activity habits, and job performance. Additionally, no research has been identified that specifically associates attitudes toward healthy eating, physical activity habits, and job performance with physical education and sports teachers as a study group.

5. Conclusions

It has been concluded that positive attitudes of physical education and sports teachers toward healthy eating and physical activity habits can positively affect their job performance. This, in turn, may indirectly enhance other factors such as job efficiency, job motivation, and similar variables.

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Declaration of Data Availability: The data are publicly available.

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