

## ORIGINAL RESEARCH

# University Students' Attitudes Towards Traditional and Complementary Medicine Practices

Merve Ebrar Ulug<sup>1</sup> , Abdurrahman Yunus Sariyildiz<sup>1</sup> , Selin Kalender<sup>2</sup> , Aslı Metin<sup>3</sup> 

<sup>1</sup> Samsun University, Faculty of Economics, Administrative and Social Sciences, Health Management Department, Samsun, Türkiye

<sup>2</sup> University of Health Sciences, Faculty of Health Sciences, Health Management Department, Ankara, Türkiye

<sup>3</sup> Isparta University of Applied Sciences, Uluborlu Selahattin Karasoy Vocational School, Department of Health Care Services, Isparta, Türkiye

\* Corresponding Author: Aslı Metin, e-mail: aslimetin@isparta.edu.tr

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### Abstract

**Objective:** This study investigates how university students, a well-educated segment of society, perceive traditional and complementary medicine (T&CM) practices and their level of healthy lifestyle skills, and how they are related. It also aims to determine whether students' healthy living skills influence their attitudes towards T&CM practices.

**Material-Method:** This descriptive and cross-sectional study focused on students enrolled in three state universities. A total of 362 student datasets were analyzed. Data were gathered through an online questionnaire comprising inquiries related to students' sociodemographic features, their familiarity with T&CM, the T&CM attitude scale, and the scale assessing their healthy living skills.

**Results:** The study's findings, the correlation coefficient between the total scores of the students from the T&CM Attitude Scale (114.80±17.95) and the Healthy Living Skills Scale (64.29±8.79) was calculated as  $r=0.127$ . There was a positive, statistically significant ( $p<0.001$ ) but a very weak relationship between the scales. The regression analysis showed that a one-unit increase in the healthy living skills scale resulted in a 0.2-point increase in the T&CM attitude scale.

**Conclusion:** The research revealed that students' attitudes towards T&CM were positive, but there was a lack of knowledge on this subject. Also, results revealed that the number of students who experienced T&CM's implementation was quite low. The capacity of behaviours, beliefs and attitudes to influence society is important. Therefore, understanding them is necessary to reach broader social consequences.

**Keywords:** Traditional and Complementary Medicine, Healthy Living Skills, University Student

### INTRODUCTION

Societies have had different beliefs about the concepts of illness and health due to the age and conditions they lived in. These beliefs and value judgments are also determinants of disease causes and how they are dealt with. In every period, there has been a search for treatment for conditions such as illness or injury with various methods. These searches and methods constitute the basis of medical practices that can be defined as traditional medicine, which originates from folk medicine<sup>1</sup>. According to the World Health Organization (WHO) definition, traditional medicine is "the sum of knowledge, skills, and practices used in the prevention, diagnosis, treatment, and cure of physical and

mental illnesses, based on theories, beliefs, and experiences specific to different cultures, which may or may not be explainable"<sup>2\*</sup>

Complementary medicine is defined as "health practices that are not part of a country's own traditions or traditional medical practices and are not fully integrated into the dominant health system". In some countries, traditional medicine and complementary medicine are used interchangeably<sup>3</sup>.

<sup>†</sup>When we examine the history of traditional

\*The term "conventional medicine" is used in the text to refer to the dominant health system.

<sup>†</sup>Traditional Indian Medicine, which emerged in the 10th century BC, meaning "science of life" in Sanskrit, and emphasizing preventive and curative health services based on sacred texts and theories.

medicine, we commonly encounter concepts such as Ayurveda and Chinese Medicine. These systems have in common that they focus on the patient rather than the disease. Both systems approach the assessment of diseases and symptoms with a holistic balance, aiming to improve health and quality of life. Nature, order, and the elements are the starting point of health care<sup>4</sup>. Although the increase in orientation towards nature and the environment and the search for healing dates to ancient times, traditional and complementary medicine practices (T&CM) have increased their popularity and have become frequently used. In particular, the increasing side effects of drugs, the lack of curative treatment for many chronic diseases, the rise in drug costs, and the emergence of new diseases with microbial resistance have led the public to turn to traditional and complementary medicine<sup>5</sup>. On the other hand, the demand for T&CM is not necessarily directly linked to conventional medical practices. There are other factors that influence people's preferences, such as advice from the social environment, religious beliefs, or the idea that T&CM will be good for them<sup>6,7</sup>. This has changed the way healthcare providers view traditional medicine, and the provision of traditional and complementary treatment practices has moved from the community to service providers over time<sup>8</sup>.

T&CM practices are effective in many areas such as preventing and treating diseases, developing solutions for mental health problems, and facing the aging population and chronic diseases. At the same time, the international market for herbal products has expanded as pharmaceutical companies have moved into this field, and the need to improve the application and safety of products has come to the fore<sup>9</sup>. It is crucial that such practices are supported by national and international policies to ensure safety, effectiveness, and quality control, and to determine the minimum qualifications of practitioners. In this context, at the Alma Ata Declaration (1978), WHO provided guidance to the participating countries in order to activate T&CM practices and guide countries in this regard<sup>10</sup>. In Turkey, the first legal regulation on traditional and complementary medicine was the "Regulation of Acupuncture Practices" published in 1991<sup>11</sup>.

In 2014, the Ministry of Health made a new regulation with the "Regulation on ES and CBA Applications"<sup>12</sup> in order to determine the application methods related to human health, the practitioners of these methods, and the procedures and principles regarding their training and authorization."

With the opening of T&CM application centers for the application of these ancient methods by health professionals, the public's interest and demand for these methods have increased even more. Individuals started to seek information and treatment from health professionals by applying to application centers opened or supported by the ministry. Recently, it is thought that the increase in the tendencies towards healthy living and developing healthy life skills in society has also influenced individuals' tendency towards T&CM practices. It is believed that individuals should have complete and accurate information about these methods because they tend to seek healing and health through these methods. Therefore, revealing the current level of knowledge and determining the attitude towards these practices in society is an important issue.

As a matter of fact, it is necessary to understand the beliefs and attitudes of university students, who constitute the population group with a high level of education, on issues that may have an impact on healthy living and healthy living skills. Their beliefs, attitudes, and behaviors could influence the beliefs and attitudes of other individuals in society. Therefore, it is thought that university students' healthy living skills and attitudes that may be related to these skills should be measured<sup>13-15</sup>. This study primarily aims to determine the attitudes of university students toward T&CM applications and their healthy living skills. Secondly, it endeavors to specify whether university students' healthy living skills influence their attitudes toward T&CM practices.

## MATERIALS AND METHODS

The population of this descriptive and cross-sectional study consisted of a total of 877 students studying in health management and health services programmes in three different state universities in Samsun, Isparta and Ankara. The research included the entire population and did not draw a sample. The study included all students who volunteered to participate from three public universities, and no exclusion criteria were applied. The questionnaire forms were collected online (google forms) between January and March 2023. Due to the difficulty in obtaining responses in the online survey, 372 students who volunteered for the survey could be reached. However, 10 questionnaires were not included in the study considering the control questions placed in the questionnaire. Therefore, the analyses were conducted on 362 survey data. To

conduct the research, necessary permissions prior to the data collection process were received (Samsun University Ethics Committee, Issue: E-59760180-044-28440 Date: 13.05.2022).

The questionnaire consists of two parts including information forms and scales. In the first part, there is a socio-demographic information form with questions to determine the age, gender, education, and household income status of the students and a T&CM information form with questions to find out whether students have information about T&CM. The second section of the study consists of the "T&CM Attitude Scale" developed by McFadden and Hernández (2010)<sup>16</sup>, which the Turkish validity and reliability conducted by Köse et al<sup>17</sup> and the "Scale of Healthy Living Skills of University Students" developed by Genç and Karaman (2019)<sup>18</sup>.

The T&CM attitude scale is 7-point Likert-type and consists of 27 items. The scale consists of 3 sub-dimensions: "Dissatisfaction with Conventional Medicine", "Holistic Balance" and "Philosophical Congruence with Complementary and Alternative Medicine" scale doesn't have a calculated cut-off value. As the scale score increases, the positive attitude towards T&CM increases.

The Healthy Living Skills Scale for University Students is a 4-point Likert-type and consists of 21 questions. The scale consists of 4 sub-dimensions: "Importance Given to Health", "Healthy Nutrition", "Access to Health-Related Resources" and "Health Priority". The lowest score that can be achieved from the scale is 21 and the highest score is 84. As the score increases, healthy living skills increase too.

#### Statistical analysis

The data obtained from the research were transferred to the Stata 16 (Stata Corp LLC, US) program, codified, and analyzed. The study employed descriptive statistics (percentage, minimum-maximum, arithmetic mean, and standard deviation) in the analysis of the data. Descriptive statistics for categorical variables are shown with the number (n) and percentage (%) values and continuous variables are shown with mean  $\pm$  standard deviation values. Normality tests were applied to analyze whether the data were normally distributed. Shapiro-Wilk test was used to investigate the conformity to normal distribution. In the comparison of paired groups, the Student T test was used for variables with normal distribution, and the One-Way ANOVA test (Post-hoc; Tukey) was used for comparisons of more than two groups.

Mann Whitney U and Kruskal Wallis (Post-hoc; Dunnett) tests were used for data that did not conform to normal distribution. In addition, Pearson correlation analysis was used to determine the relationship between the two scales, and linear regression analysis was performed using the least squares method to determine the factors affecting the scale of attitude towards T&CM. The statistical significance level was accepted as  $p < 0.05$  in the analyses.

#### RESULTS

Table 1 presents the numerical and percentage distributions of the sociodemographic characteristics of the participating students, including gender, age, class, income, and their level of knowledge about T&CM (Table 1).

It was determined that most of the university students participating in the study were between the ages of 21 and 25 (59.67%), second-year students (31.22%), and females (65.19%). Furthermore, the data revealed that approximately one-third of the students (30.39%) did not know the meaning of evidence-based medicine and almost all of them (94.75%) did not experience any T&CM implementation.

However, more than one-third of the students (69.06%) did not know that T&CM is practiced by physicians in hospitals, but they were satisfied with the implementation of T&CM by physicians (77.07%). Lastly, it was determined that 1 out of every 8 students (12.15%) had a chronic illness that required constant medical supervision.

Within the scope of the study, descriptive statistics and correlation coefficients were calculated for the scores obtained by the students from the T&CM attitude scale and the healthy living skills scale and its sub dimensions (Table 2).

The average total score of the participants on the T&CM attitude scale is 114.80. The total score of the participants from the healthy life skills scale was calculated as 64.29. The correlation analysis revealed a statistically significant ( $p=0.01$ ), positive but very weak (0.127) relationship between the T&CM attitude scale and the healthy living skills scale. It was determined that there was a statistically significant, positive, and moderate relationship between the sub-dimension of importance given to health and the sub-dimensions of healthy nutrition, access to health-related resources, and health priority. The analysis determined that there was a statistically significant, positive, and moderate relationship between the holistic balance sub-

dimension of the T&CM attitude scale and the philosophical congruence with the complementary and alternative medicine sub-dimension. This study

assumes that all T&CM practices are based on a holistic balance. This result corroborates this assumption (Table 2).

**Table 1.** Participants' Sociodemographic Characteristics, State of Having Chronic Illness, and Level of Knowledge about T&CM

c	n	%		n	%
<b>Gender</b>			<b>Know the meaning of evidence-based medicine</b>		
Female	236	65.19	Yes	93	25.69
Male	126	34.81	Partially	159	43.92
			No	110	30.39
<b>Age</b>			<b>The state of having a chronic illness</b>		
≤20	130	35.91	Yes	44	12.15
21-25	216	59.67	No	318	87.85
25≥	16	4.42			
<b>Class</b>			<b>Knowing that T&amp;CM is practiced by physicians</b>		
1st class	69	19.06	Yes	112	30.94
2nd class	113	31.22	No	250	69.06
3rd class	90	24.86			
4th class	90	24.86	<b>Satisfaction with the implementation of T&amp;CM by physicians</b>		
			Yes	279	77.07
<b>Income</b>			No	52	14.36
₺6.000 and below	140	38.67	No idea	31	8.56
₺6.001 - ₺8.000	86	23.76	<b>Experienced T&amp;CM's implementation</b>		
₺8.001 - ₺10.000	57	15.76	Yes	19	5.25
₺10.001 - ₺15.000	46	12.71	No	343	94.75
₺15.001 and above	33	9.12			

₺: Turkish lira

**Table 2.** Descriptive Statistics and Correlation Coefficients for the Scales and Subscales

	Mean±SD	Min-Max	1	1.1	1.2	1.3	2	2.1	2.2	2.3	2.4
<b>1.Complementary, Alternative and Conventional Medicine Attitude Scale</b>	<b>114.80±17.95</b>	<b>57-175</b>									
1.1.Philosophical congruence with complementary and alternative medicine	36.29±8.30	14-56	<b>0.759*</b>								
1.2.Dissatisfaction with conventional medicine	30.72±10.69	10-63	<b>0.558*</b>	0.049							
1.3.Holistic balance	47.58±8.58	9-63	<b>0.660*</b>	<b>0.558*</b>	<b>-0.126*</b>						
<b>2.Healthy Life Skills Scale in University Students</b>	<b>64.29±8.79</b>	<b>27-84</b>	<b>0.127*</b>	<b>0.273*</b>	<b>-0.196*</b>	<b>0.248*</b>					
2.1.Importance given to health	26.04±3.65	13-32	0.063	<b>0.184*</b>	<b>-0.199*</b>	<b>0.202*</b>	<b>0.862*</b>				
2.2.Healthy nutrition	14.39±2.90	5-20	0.061	<b>0.192*</b>	<b>-0.188*</b>	<b>0.175*</b>	<b>0.835*</b>	<b>0.572*</b>			
2.3.Access to health-related resources	13.12±2.95	5-20	<b>0.202*</b>	<b>0.287*</b>	-0.030	<b>0.183*</b>	<b>0.779*</b>	<b>0.518*</b>	<b>0.565*</b>		
2.4.Health priority	10.73±1.52	3-12	0.076	<b>0.210*</b>	<b>-0.239*</b>	<b>0.255*</b>	<b>0.598*</b>	<b>0.480*</b>	<b>0.446*</b>	<b>0.233*</b>	

\*Correlation is significant at the level 0.01; SD=Standart deviation

Table 3 provides data on the comparison of the socio-demographic characteristics, the state of having a chronic illness, and knowledge levels about T&CM with the scores obtained from the sub-dimensions of the T&CM attitude scale of the students included in the study (Table 3).

It was determined that there was a statistically significant difference (p=0.044) between the gender variable and the dissatisfaction with conventional medicine sub-dimension of the T&CM attitude scale. Male students were found to have lower

levels of satisfaction with conventional medicine compared to female students. It was found that there was a statistically significant difference when the sub-dimensions of philosophical congruence with complementary and alternative medicine (p=0.010) and holistic balance (p=0.014) are compared to the age variable. After the age of 25, it can be stated that students have a more positive philosophical congruence with complementary and alternative medicine and their holistic balance has improved a little more.

It was also identified that there was a statistically significant ( $p=0.001$ ) difference between the holistic balance sub-dimension of the scale and the class variable. It can be said that fourth-grade students have significantly more holistic balance than first-

grade students. Among the groups, it can be stated that students with higher income groups have a more positive philosophical congruence with complementary and alternative medicine, and their holistic balance is slightly more improved.

**Table 3.** Comparison and Analysis of the Subscales of the T&CM Attitude Scale According to the Mean Scores

	n	%	1.Complementary, Alternative and Conventional Medicine Attitude Scale*	1.1.Philosophical congruence with complementary and alternative medicine*	1.2.Dissatisfaction with conventional medicine**	1.3.Holistic balance**
<b>Gender</b>						
Female	236	65.19	114.56	36.19	30.02	48.33
Male	126	34.81	115.26	36.47	32.01	46.76
<i>p value</i>			0.724	0.759	<b>0.044</b>	0.109
<b>Age</b>						
1. $\leq 20$	130	35.91	111.353	34.83	30.57	45.93
2. 21-25	216	59.67	116.02	36.85	30.51	48.65
3. $25 \geq$	16	4.42	126.37	40.5	34.62	51.25
<i>p value</i>			<b>0.001</b>	<b>0.010</b>	0.341	<b>0.014</b>
<i>difference between groups</i>			<b>1 vs 2 p=0.047</b>	<b>1 vs 3 p=0.026</b>		<b>1 vs 2 p=0.008</b>
			<b>1 vs 3 p=0.004</b>			<b>1 vs 3 p=0.034</b>
<b>Class</b>						
1st class	69	19.06	112.11	34.50	30.56	47.04
2nd class	113	31.22	113.79	35.743	31.85	46.19
3rd class	90	24.86	116.60	36.9	31.87	47.82
4th class	90	24.86	116.34	37.74	28.25	50.34
<i>p value</i>			0.326	0.074	0.076	<b>0.001</b>
<i>difference between groups</i>						<b>1 vs 4 p=0.040</b>
<b>Income</b>						
1.£6.000 and below	140	38.67	115.22	35.81	31.08	48.32
2.£6.001 - £8.000	86	23.76	110.18	34.73	29.90	45.54
3.£8.001 - £10.000	57	15.76	115.10	37.00	29.92	48.17
4.£10.001 - £15.000	46	12.71	121.08	40.39	30.76	49.93
5.£15.001 and above	33	9.12	115.78	35.45	32.60	47.72
<i>p value</i>			<b>0.020</b>	<b>0.003</b>	0.716	<b>0.035</b>
<i>difference between groups</i>			<b>2 vs 4 p=0.008</b>	<b>2 vs 4 p=0.009</b>		<b>1 vs 2 p=0.050</b>
<b>Know the meaning of evidence-based medicine</b>						
1.Yes	93	25.69	115.34	36.80	29.18	49.35
2.Partially	159	43.92	113.547	36.45	29.66	47.43
3.No	110	30.39	116.17	35.62	33.55	46.99
<i>p value</i>			0.472	0.572	<b>0.003</b>	0.081
<i>difference between groups</i>					<b>1 vs 3 p=0.006</b>	<b>1 vs 2 p=0.006</b>
<b>The state of having a chronic illness</b>						
Yes	44	12.15	115.11	37.18	29.36	48.56
No	318	87.85	114.76	36.16	30.90	47.68
<i>p value</i>			0.903	0.449	0.243	0.479
<b>Knowing that T&amp;CM is practiced by physicians</b>						
Yes	112	30.94	116.99	37.93	29.24	49.81
No	250	69.06	113.82	35.55	31.38	46.88
<i>p value</i>			0.121	<b>0.011</b>	0.063	<b>0.000</b>
<b>Satisfaction with the implementation of T&amp;CM by physicians</b>						
1.Yes	279	77.07	115.76	36.98	29.96	48.82
2.No	52	14.36	111.38	34.48	32.69	44.21
3.No idea	31	8.56	111.903	33.12	34.22	44.54
<i>p value</i>			0.174	<b>0.011</b>	<b>0.020</b>	<b>0.000</b>
<i>difference between groups</i>				<b>1 vs 3 p=0.037</b>		<b>1 vs 2 p=0.001</b>
<b>Experienced T&amp;CM's implementation</b>						
Yes	19	5.25	125.26	42.10	31.94	51.21
Nor	343	94.75	114.22	35.97	30.65	47.60
<i>p for difference</i>			<b>0.008</b>	<b>0.001</b>	0.641	0.091

\*T test and Anova test \*\*Mann Whitney U test and Kruskal-Wallis test

It was found that there was a statistically significant ( $p=0.003$ ) difference between the dissatisfaction with conventional medicine sub-dimension of the T&CM attitude scale and knowing the meaning of evidence-based medicine. Those who know the meaning of evidence-based medicine have lower levels of dissatisfaction with conventional medical practices than those who are partially familiar and those who are not familiar at all. Since evidence-based medicine forms the basis of conventional medicine, it is expected that those who are familiar with these practices will have lower levels of dissatisfaction. It was found that there was a statistically significant difference ( $p=0.000$ ) between the status of knowing that T&CM is practiced by physicians and the sub-dimension of holistic balance. The analysis revealed that there was a statistically significant difference between

satisfaction with the implementation of T&CM by physicians, and the sub-dimensions of holistic balance ( $p=0.000$ ) and dissatisfaction with conventional medical practices ( $p=0.020$ ). Moreover, the study found that there was a statistically significant difference between the experience of T&CM's implementation and the philosophical congruence with complementary and alternative medicine ( $p=0.001$ ). Lastly, no significant difference was found between the sub-dimensions of the T&CM attitude scale according to the state of having a chronic illness.

Information on the comparison of the sociodemographic characteristics of the students participating in the study with the scores they received from the sub-dimensions of the healthy living skills scale is presented in Table 4.

**Table 4.** Comparison and Analysis of the Subscales of the Healthy Living Skills Scale According to the Mean Scores

	n	%	2. Healthy Life Skills Scale in University Students**	2.1. Importance given to health**	2.2. Healthy nutrition**	2.3. Access to health-related resources *	2.4. Health priority**
<b>Gender</b>							
Female	236	65.19	64.51	26.06	14.33	13.173	10.93
Male	126	34.81	63.873	25.99	14.49	13.031	10.35
<i>p value</i>			0.798	0.937	0.286	0.664	<b>0.042</b>
<b>Age</b>							
1. $\leq 20$	130	35.91	62.35	25.45	13.90	12.4	10.59
2. 21-25	216	59.67	65.16	26.32	14.57	13.43	10.82
3. $25 \geq$	16	4.42	68.18	26.93	15.81	14.81	10.62
<i>p value</i>			<b>0.002</b>	0.077	<b>0.009</b>	<b>0.000</b>	0.706
<i>difference between groups</i>			<b>1 vs 2 p=0.007</b> <b>1 vs 3 p=0.021</b>		<b>1 vs 3 p=0.024</b>	<b>1 vs 2 p=0.004</b> <b>1 vs 3 p=0.005</b>	
<b>Class</b>							
1st class	69	19.06	63.05	25.55	14.01	12.86	10.62
2nd class	113	31.22	63.66	25.73	14.23	13.16	10.53
3rd class	90	24.86	62.34	25.25	13.833	12.52	10.73
4th class	90	24.86	67.96	27.588	15.44	13.86	11.06
<i>p value</i>			<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.018</b>	0.125
<i>difference between groups</i>			<b>1 vs 4 p=0.001</b>	<b>1 vs 4 p=0.001</b>	<b>1 vs 4 p=0.005</b>	<b>3 vs 4 p=0.012</b>	
<b>Income</b>							
₺6.000 and below	140	38.67	64.87	26.26	14.47	13.29	10.84
₺6.001 - ₺8.000	86	23.76	63.31	25.39	14.12	13.09	10.69
₺8.001 - ₺10.000	57	15.76	64.57	26.47	14.33	12.98	10.78
₺10.001 - ₺15.000	46	12.71	64.08	25.76	14.82	12.89	10.63
₺15.001 and above	33	9.12	64.15	26.42	14.24	13.09	10.39
<i>p value</i>			0.538	0.391	0.408	0.919	0.868

\*T test and Anova test \*\*Mann Whitney U test and KruskalWallis test

The study determined that there was a significant difference ( $p=0.042$ ) between the health priority sub-dimension of the healthy living skills scale and the gender variable. It can be said that women give more importance to health priority. A significant difference appeared when the sub-dimensions of healthy nutrition ( $p=0.009$ ) and access to health-

related resources ( $p=0.000$ ) of the healthy living skills scale are compared to the age variable. It can be said that students aged 25 and over attach more importance to healthy nutrition than students aged 20 and under. Similarly, it can be said that both students aged 25 and over and students aged 20-25 are more advantageous than students aged 20 and

below in terms of accessing healthy resources. It was determined that there was a significant difference ( $p=0.000$ ,  $p=0.000$ , and  $p=0.018$ , respectively) between all sub-dimensions of the healthy living skills scale (except the health priority sub-dimension) with the grade variable. It can be said that fourth-grade students attach more importance to health and healthy nutrition than first-grade students. Similarly, it can be stated that

fourth-grade students are more advantageous in terms of accessing health-related resources than third-grade students.

The least squares method was used to determine the factors affecting the attitude scale towards T&CM. The results of the linear regression analysis using the ordinary least squares method are presented in Table 5.

**Table 5.** Regression Analysis of University Students' T&CM Attitude Scale

T&CM	Coefficient	Std. Err.	t
Healthy Life Skills Scale in University Students	0.233	0.108	2.15*
Age	0.521	0.359	1.45
Knowing that T&CM is practiced by physicians	1.640	2.193	0.75
Experienced T&CM's implementation	8.580	4.420	1.94*
Know the meaning of evidence-based medicine (yes, partially)	-3.625	2.107	-1.72**
_cons	90.248	9.704	9.30

\* $p<0.05$ , \*\* $p<0.1$ ; Number of Obs.=362;  $F(5,356)=3.53$ ;  $Prob > F = 0.003$ ;  $R-squared = 0.047$ ;  $Adj R-squared = 0.033$

Results of the regression analysis stated that having experienced T&CM's implementation before increased the score obtained from the T&CM attitude scale by an average of 8.5 points. Additionally, it was found that a one-unit increase in the healthy living skills scale caused a 0.2-point increase in the T&CM attitude scale. In addition, students who know the meaning of evidence-based medicine had an average score of 3.6 points lower on the T&CM attitude scale compared to those who did not know about evidence-based medicine. It was determined that the variables in the model explained approximately 3% of the change in the T&CM attitude scale (Table 5). In this regard, it was determined that it is necessary to investigate the attitude towards T&CM with more different variables.

## DISCUSSION

This study, aimed to examine the knowledge of university students about T&CM and their healthy living skills, concluded that 94.75% of the students did not experience any T&CM implementation. It was also determined that approximately one third of the students (30.39%) did not have knowledge about evidence-based medicine. It was determined that the average total score they received from the T&CM attitude scale was 114.80 and the total score the

participants received from the healthy life skills scale was 64.29.

In various studies conducted in this field in Turkey, the utilization rates of T&CM methods were 39.3%, 56.5%, 53.2%, and 65.9%<sup>19-22</sup>. Similarly, in a study conducted abroad, the rate of participants using T&CM methods was found to be 75%<sup>22</sup>. In the research conducted by Bayer and Uzuntarla (2022) among individuals with a chronic disease over the age of 65, it was found that 61.2% of the patients used the T&CM method<sup>24</sup>. Likewise, another study discovered that a large part of Europe and America tends to use various T&CM methods<sup>25</sup>. These studies clearly demonstrate the need to investigate these methods due to the increasing interest in T&CM methods.

Our study found that approximately one-third of the students (30.39%) didn't know the meaning of evidence-based medicine. The fact that the students participating in the study are in the young population group and have not encountered many health problems may be the reason for their low interest in T&CM methods. As a matter of fact, in a study carried out by Öcal Kırsoy (2022) and colleagues on university students, the rate of students using T&CM was found to be 22.1%<sup>26</sup>. In our study, the rate of students who have experienced T&CM's implementation was 5.25%.

Furthermore, this study found that the average total score of the participants on the T&CM attitude scale was 114.80. The examination of the distribution of

scores according to the sub-dimensions of the scale determined that the sub-dimension of dissatisfaction with conventional medicine had the lowest mean score of 30.72, while the score obtained from the holistic balance sub-dimension had the highest mean score of 47.58. The mean score of the philosophical congruence with complementary and alternative medicine sub-dimension was calculated as 36.29. In a study conducted with the same scale, the total score of the T&CM attitude scale was 103.99, the sub-dimension of dissatisfaction with conventional medicine was 29.95, the sub-dimension of holistic balance was 44.15 and the sub-dimension of philosophical congruence with complementary and alternative medicine was 29.88. These results are consistent with our results<sup>19</sup>. In another study, the total score of the T&CM attitude scale was 115.78, the sub-dimension of dissatisfaction with conventional medicine was 35.54, the sub-dimension of holistic balance was 44.7 and the sub-dimension of philosophical congruence with complementary and alternative medicine was 35.54<sup>19</sup>.

In a study conducted by Özkan and Aca (2020) with the same scale, the total score of the students from the healthy life scale was 69.52. In our study, the total score of the participants from the healthy living skills scale was revealed to be 64.29<sup>27</sup>.

This study conducted among university students found that there was a statistically significant difference ( $p=0.044$ ) between the gender variable and the dissatisfaction with conventional medicine sub-dimension of the T&CM attitude scale. Male students were found to have lower levels of satisfaction with conventional medicine compared to female students. Another study conducted on students found that the attitude of female students towards T&CM methods was significantly positive<sup>26</sup>.

Existing studies didn't reveal a significant relationship between age and the T&CM attitude scale<sup>20-22</sup>. Our study found that students had a more positive attitude towards complementary medicine as age increased. On the other hand, another study conducted among university students determined that students' attitudes changed positively as age decreased. In said study, parallel to our results found that students' interest in T&CM increased with the rise in their grades. Furthermore, in line with the results of our study, the study determined that the approach to T&CM use was positively affected by increasing income levels<sup>26</sup>. Since T&CM applications are not reimbursable, they are typically

paid for out-of-pocket, which suggests a correlation with income. However, there are also studies that found no significant relationship between T&CM use and income level<sup>22</sup>.

Studies conducted in the field generally stated that individuals' attitudes toward T&CM use are positive<sup>20,21</sup>. Similar to our study, some studies spotted that although students do not have sufficient knowledge about T&CM, they tend to use T&CM, albeit low<sup>26</sup>.

Our study found that students aged 25 and over attach more importance to healthy nutrition than students aged 20 and under. Another study conducted in the field yielded similar results<sup>28</sup>. Similar results were obtained in our study in parallel with the studies in which it was determined that there was no difference between students' healthy living skills according to income levels. In the studies, no significant differences were found according to gender<sup>27,28</sup>.

## CONCLUSION

This research, undertaken to uncover the healthy living skills of university students, their attitudes towards T&CM, and the link between them, discovered that the level of healthy living skills of the students was at a medium level. It is determined that although the students lacked knowledge about T&CM, their attitudes on this subject were positive. However, the relationship between students' attitudes towards T&CM and their healthy living skills was found to be very weak. In this context, it was determined that the power of students' healthy living skills to explain their attitudes toward T&CM was very weak.

University students, who constitute both the educated and young population groups of society, have the potential to influence society with their behaviors, beliefs, and attitudes. Therefore, we believe that it is beneficial to reveal the knowledge levels and attitudes of society on issues that directly concern their health.

The fact that T&CM practices are not yet included in evidence-based practices and are demanded is a matter of debate. However, the state of not being evidence-based does not always negatively affect the choice of treatment. The demand for T&CM and the opening of relevant polyclinics in hospitals are examples of this. However, this study estimated that students who know the meaning of evidence-based medicine had lower scores on the T&CM attitude scale. Therefore, the fact that there is an increasing demand necessitates an in-depth investigation of



which segment of society is demanding it. This conclusion is also a recommendation for future studies.

### Main points

- The majority of university students do not have detailed information about T&CM applications.
- The independent variables in this study were found to be insufficient in determining the factors affecting students' T&CM attitudes.
- It can be said that students' healthy living skills

and T&CM attitudes are at a moderate level.

- Since the use of T&CM applications has increased recently, it is thought that it would be important to conduct similar studies at certain time intervals.

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