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Original article

Eating habits in terms of gender among Turkish agricultural engineering students: a cross-sectional study

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Summary. The aim of this study was to examine agricultural engineering students' eating habits and the psychological factors affecting these habits. A cross-sectional survey was conducted of 388 agricultural engineering students (40.5 % female, 59.5 % male), aged 20.5 ± 1.5 years, chosen randomly. The results of the study showed that the majority of students (63.4 %) were of normal weight (by gender - 70.0 % female, 58.9 % male). The prevalence of pre-obesity and obesity were higher among male students (34.2 % and 4.3 %) than females (10.2 % and 2.0 %) respectively. In contrast, 17.8 % of female students were categorized as underweight, as compared to 2.6 % of the males. With regard to eating habits, the majority of students (78.0 %) were not eating meals regularly. Male students (72.7 %) generally followed more regular meal patterns than female students (86.0 %). On the other hand, female students showed healthier eating habits compared to the males in terms of daily breakfast intake and daily fruit and vegetable consumption. When psychological factors were considered, the majority of students were found to eat more when they are bored and when they are happy. Females reported that they eat more because they are feeling bored or feeling happy (68.2 % and 65.0 % respectively), while figures for male students were significantly lower (41.1 % and 47.2 % respectively). Awareness can be achieved by campus-wide information campaigns and workshops focused on aspects of nutrition.

Key words: Eating habits, differences in terms of gender, psychological factors, university students

Abbrevations

ANOVA: Analysis of Variance; BMI: Body Mass Index; CES: Complusive Eating Scale; SD: Standart Deviation; SPSS: Statisical Package for Social Science; WHO: World Health Organization

Background

The eating habits of young adults have become a public health concern, especially in the last twenty years (1-8). Lifestyles and eating habits of young adults of university age have also tended to become less healthy in recent years (9-10). For Turkish university students, the result of unhealthy eating and lifestyle habits can be seen in the emergence of health problems like anemia, vitamin deficiency etc. (5-11). Various factors can affect dietary choices of university students (12) and some reasons put forward to explain unhealthy eating patterns include time pressure, underdeveloped cooking skills, lack of kitchens or other amenities for cooking in dormitories, living far away from the family, attitudes towards shopping and easy access to convenience foods (12-13).

The health of young adults determines the health of society in the future (14-16). For this reason eating and lifestyle habits of the university students can be considered an important topic. Students in Çanakkale Onsekiz Mart University Faculty of Agriculture commonly receive lectures on a range of topics such as: "food science and safety","the importance of fruit and vegetables for public health", "fish cooking techniques","organic farming"etc. It could be expected, therefore, that based on

this knowledge, agriculture engineering students in the faculty would have healthier eating habits than the general student population. The objective of this study was to investigate eating and lifestyle habits of agricultural engineering students, and the psychological factors affecting these habits, with particular reference to differences in terms of gender.

Gender is an important variable in studies of the eating habits of young adults (1-2-5-12). The body composition (fat/muscle ratio etc.) of male and female young adults is different and nutritional requirements (calories per day etc.) also vary according to gender. Furthermore, the eating habits of male and female young adults may very depending on socio-demografic characteristics (1-5). This study considered gender a significant variable with regard to the eating habits of young adults.

Methods

Design and sample

This cross-sectional study was conducted on a total sample of 388 agriculture engineering students at Çanakkale Onsekiz Mart University in Turkey, during the spring semester of the 2018-2019 academic year. With the prior approval of the course coordinator and the various lecturers involved, students from all classes in the Deparments of Agricultural Engineering were approached in the classroom after lectures and asked if they were willing to participate in the study. The objectives and benefits of the research were fully explained to prospective respondents orally and in a printed form attached to the questionnaire. Assurances were given that all information obtained would be confidental and their participation would not in any way impede the progress of their courses.

In the spring term of 2018-2019, there were 1390 students enrolled in the Faculty of Agriculture of Çanakkale Onsekiz Mart University. According to data from the Faculty's Student Affairs Department, approximately 1020 of this number were active. The sample group selected for the survey in this study was students between the ages of 18 and 25. Students who did not actively participate in the courses, or who did not volunteer to complete a survey, were not considered for inclusion.

From the 400 students initially admitted for inclusion in the survey, ten were subsequently found to have supplied incomplete data and two were found to be outside the 18-25 age range. This meant that the final total included in the research study was 388. The distribution of the questionnaires across departments was as follows: Plant Protection (80), Horticulture (68), Field Crops (64), Biotechnology (62), Agricultural Economics (61), Zootechnics (34) and other departments (19).

Data collection

A self-administered questionnaire was prepared which focused on eating habits as well as drinking, smoking, sleeping and physical activity habits. The list of questions selected and the scales used for assessment of responses were adopted from those used in previously- published studies where authors have investigated university students (6-13-17-18). The questionnaire was divided into three parts. The first part asked for basic personal information and demographic data (gender, age, weight, height etc.)

Body Mass Index (BMI) was used to assess students' weight status. This is calculated as weight in kilograms divided by height in square metres (kg/m^2). According to World Health Organization (WHO) guidelines, weight status can be classified into six main categories: Underweight (BMI ≤ 18.5), Normal Weight (BMI 18.5 - 24.9), Pre-obesity (BMI 25.0 - 29.9), Obese Class I (BMI 30.0 - 34.9), Obese Class II (BMI 35.0 - 39.9), and Obese Class III (BMI ≥40) (16). In our research, there were no students in Obese Classes II and III. So, for the purposes of the study, the author chose to regard Obese Class I as the Obese Class.

The second part featured a range of questions related to eating habits and other lifestyle habits such as smoking, drinking etc., while the third part included questions on psychological aspects which may influence behavioral patterns. The Compulsive Eating Scale (CES) was used as a framework for measurement of psychological factors which may affect eating habits (13-19).

Data analysis

Statistical analysis were carried out using the Statisical Package for Social Science (SPSS) 19.0. Results were expressed as means ± standard deviation (SD). Normality tests of parametric variables were analyzed. Analysis of

Variance (ANOVA) was used to examine differences in demographic characteristics for the parametric variables. Non-parametric variables were analyzed using Independent Chi-square Analyses. All reported p values were agreed at a significance 1.0 % or 5.0 %; differences were considered statistically significant at $p<0.01$ or $p<0.05$. To check for the validty of CES among Turkish agricultural engineering students at Çanakkale Onsekiz Mart University, reliability analysis was carried out using Cronbach's Alpha Test.

Results

Characteristics of the student sample and BMI values

Characteristics of the university students are given in Table 1. A total of 388 university students (157 females and 231 males), aged 20.5 ± 1.5 years, volunteered to participate in this study. The averages of weight (69.5 ± 14.2 kg) and height (173.3 ± 9.2 cm) of the participants were obtained and the overall BMI average (22.9 ± 3.4) was calculated.

A normality test of parametric variables was applied. According to this, Shapiro-Wilk and Kolmogorov Smirnov test statistics were significant (p=0.000). Even if it looked as if this study's scale variables were not normally distributed, it was proved that if the skewness and kurtosis values were between the values +1.0 and -1.0, then the data can be considered normally distributed (20-21-22). The skewness and kurtosis values of the parametric variables of this study were as follows: age (0.577, -0.130), weight (0.322, -0.653), height (-0.066, -0.661) and BMI (0.500, -0.056). All were between +1.0 and -1.0. Therefore, it was possible to verify that the parametric variables were normally distributed. One-Way ANOVA analysis condition was also confirmed. From the One-Way ANOVA analysis, all the parametric variables which are given in Table 1 show significant differences in terms of gender.

From the BMI calculations, the weight figures were compared with the WHO BMI classification. In this study, there was no representation in the Obese II and Obese III Classes, while there were observations in the Obese I Class. Our study showed that predominantly the students were of normal weight (63.4 %, with 58.9 % males compared to 70.0 % female students) as shown in Table 2. 24.5 % of students were pre-obese, with male students (34.2 %) featuring more than female students (10.2 %) in this group. It was more common for students to be classed as underweight (8.8 %) than as obese (3.3 %) . While the percentage of the females in the underweight class (17.8 %) was higher than that of the males (2.6 %), obesity was more prevalent in male students (4.3 % compared to 2.0 % in female students).

Students' eating and lifestyle habits by gender

Participants' eating habits and other behavioral patterns related to lifestyle were compared by gender (Table 3). The majority of the students (78.0 %) do not take regular meals (86.0 % female and 72.7 % male students). Male students (27.3 %) eat meals more regularly than female students (14.0 %) and the differences in terms of gender here were statistically significant (p=0.002).

Fewer than half of the students eat breakfast every day (47.7 %) and only 22.4 % eat breakfast three or four times per week. Female students (54.2 %) are more inclined to have breakfast every day than male students (43.3 %). With regard to frequency of breakfast consumption, the differences in terms of gender were also found to be significant (p=0.027).

Table 1. Characteristics of the university students (means+SD)

Variable	Total	Females	Males	P [a]
Number of students	N=388	N=157	N=231	-
Age (years)	20.5 ± 1.5	20.2 ± 1.4	20.7 ± 1.6	0.002
Weight (kg)	69.5 ± 14.2	58.0 ± 8.8	77.3 ± 11.7	0.000
Height (cm)	173.3 ± 9.2	164.7 ± 5.7	179.1 ± 6.3	0.000
BMI	22.9 ± 3.4	21.3 ± 2.9	24.0 ± 3.2	0.000

[a] One Way ANOVA test was used to compare means between categories (p<0.01).

Table 2. BMI among students by gender

	Total		Females		Males	
Weight Status	**N**	**%**	**N**	**%**	**N**	**%**
Underweight*	34	8.8	28	17.8	6	2.6
Normal**	246	63.4	110	70.0	136	58.9
Pre-obesity***	95	24.5	16	10.2	79	34.2
Obese****	13	3.3	3	2.0	10	4.3

*Underweight (BMI ≤ 18.5), **Normal (BMI between 18.5-24.9), ***Pre-obesity (BMI between 25.0-29.9), ****Obese (BMI ≥30.0), % = equal to 100.0 % vertically

More than half of students (54.8 %) said that they eat at least two main meals per day, 64.3% females versus 48.5% males (p=0.001).

Half of the students (50.3 %) have a snack once a day, 55.4 % males and 42.7 % for females. No significant differences in terms of gender were found here (p=0.130).

Nearly one quarter of students (24.7 %) stated that they eat fresh vegetables daily. The percentage for female students (31.2 %) was found to be higher than that for male students (20.4 %) and in this instance the differences in terms of gender were significant (p=0.013).

While 28.1 % of students eat fresh fruit every day, 31.5 % responded that they rarely eat fresh fruit. Daily

Table 3. Students' response to questions related to eating and some lifestyle habits by gender

		Total		Females		Males		
Questions	**Levels**	**N**	**%**	**N**	**%**	**N**	**%**	**P** [a]
Do you take your meals regularly?	Irregular	303	78.0	135	86.0	168	72.7	0.002
	Always regular	85	22.0	22	14.0	63	27.3	
How many times do you take breakfast in a week?	Daily	185	47.7	85	54.2	100	43.3	
	Three or four times per week	87	22.4	37	23.6	50	21.6	0.027
	Once or twice per week	32	8.2	14	8.9	18	7.8	
	Rarely	79	20.4	20	12.7	59	25.6	
	Never	5	1.3	1	0.6	4	1.7	
How many times do you eat main meals in a day?	One main meal	46	11.9	9	5.7	37	16.0	
	Two main meals	213	54.8	101	64.3	112	48.5	0.001
	Three main meals	113	29.2	44	28.1	69	29.9	
	More than three main meals	16	4.1	3	1.9	13	5.6	
How many times do you take snacks apart from main meals in a day?	Never	75	19.3	34	21.6	41	17.8	
	One time	195	50.3	67	42.7	128	55.4	n.s*
	Two times	84	21.7	40	25.5	44	19.0	
	Three times	25	6.4	13	8.3	12	5.2	
	More than three times	9	2.3	3	1.9	6	2.6	
How often do you eat fresh vegetables in a week?	Daily	96	24.7	49	31.2	47	20.4	
	Three or four times per week	62	16.0	29	18.5	33	14.3	0.013
	Once or twice per week	110	28.4	39	24.8	71	30.7	
	Rarely	113	29.1	40	25.5	73	31.6	
	Never	7	1.8	-	0.0	7	3.0	
How often do you eat fresh fruits in a week?	Daily	109	28.1	51	32.5	58	25.1	
	Three or four times per week	50	12.9	22	14.1	28	12.2	n.s*
	Once or twice per week	95	24.5	38	24.2	57	24.7	
	Rarely	122	31.5	41	26.0	81	35.0	
	Never	12	3.0	5	3.2	7	3.0	
How often do you eat fast food (pizza, hamburger etc.) in a week?	Daily	51	13.1	19	12.1	32	13.9	
	Three or four times per week	48	12.4	17	10.9	31	13.4	n.s*
	Once or twice per week	126	32.5	54	34.4	72	31.2	
	Rarely	148	38.1	63	40.1	85	36.8	
	Never	15	3.9	4	2.5	11	4.7	
How often do you eat fried food in a week?	Daily	44	11.3	19	12.1	25	10.8	
	Three or four times per week	51	13.1	15	9.6	36	15.6	n.s*
	Once or twice per week	124	32.0	51	32.5	73	31.6	
	Rarely	157	40.5	68	43.3	89	38.5	
	Never	12	3.1	4	2.5	8	3.5	
How often do you eat junk food in a week?	Daily	63	16.2	30	19.1	33	14.3	
	Three or four times per week	58	14.9	32	20.4	26	11.3	0.011
	Once or twice per week	86	22.2	38	24.2	48	20.8	
	Rarely	157	40.5	50	31.8	107	46.3	
	Never	24	6.2	7	4.5	17	7.3	

Table 3. Students' response to questions related to eating and some lifestyle habits by gender

		Total		Females		Males		
Questions	**Levels**	**N**	**%**	**N**	**%**	**N**	**%**	**P** [a]
How often do you drink sugary/gassy beverage in a week?	Daily	56	14.4	18	11.5	38	16.5	n.s*
	Three or four times per week	32	8.2	9	5.7	23	9.9	
	Once or twice per week	67	17.3	25	15.9	42	18.2	
	Rarely	174	44.8	75	47.8	99	42.8	
	Never	59	15.3	30	19.1	29	12.6	
How often do you drink alcohol in a week?	Daily	10	2.6	1	0.6	9	3.9	0.005
	Three or four times per week	8	2.0	1	0.6	7	3.0	
	Once or twice per week	37	9.5	9	5.8	28	12.1	
	Rarely	177	45.7	70	44.6	107	46.3	
	Never	156	40.2	76	48.4	80	34.7	
Smoking status	Yes	143	36.9	39	24.8	104	45.0	0.000
	Sometimes	49	12.6	18	11.5	31	13.4	
	No	196	50.5	100	63.7	96	41.6	
Exercise status	Irregular	290	74.7	131	83.4	159	68.8	0.001
	Regular	98	25.3	26	16.6	72	31.2	
Sleeping status	Irregular	322	83.0	130	82.8	192	83.1	n.s*
	Regular	66	17.0	27	17.2	39	16.9	

[a] Chi-square test was used to compare means between categories ($p<0.05$). *n.s=not significant, %= equal to 100.0 % vertically

consumption is higher for the females (32.5 %) than for the males (25.1 %). For those stating they rarely eat fresh fruit, 35.0 % were males and 26.0 % females. Here, no significant differences in terms of gender were found ($p=0.347$).

Students reported that they eat fast food (e.g. hamburgers, pizza etc.) either rarely (38.1 %) or once or twice per week (32.5 %). 40.1 % of females and 36.8 % of males said that they consume these kinds of foods rarely. The differences in terms of gender were not statistically significant ($p=0.648$).

In line with results for fast food (hamburger, pizza etc.), students reported that they consume fried food rarely (40.5 %), or once or twice per week (32.0 %). Females' consumption of fried food (43.3 %) was found to be higher than that of males (38.5 %), but no significant differences in terms of gender were found in this case ($p=0.474$).

Junk food tends to be sold to students as packaged goods (salted snacks, candy, gum, sweet desserts etc.) in the same way as confectionery products. Students reported that they rarely consume junk food (40.5 %) or they consume it once or twice per week (22.2 %). Male students (46.3 %) are more attracted to junk food than females (31.8 %) and there were significant differences in terms of gender in consumption levels ($p=0.011$).

Students' consumption of sugary and gassy beverages was also investigated. Consumption was reported as rare (44.8 %) or once or twice per week (17.3 %). 47.8 % of females and 42.8% of males reported they drink sugary/gassy beverages rarely. There were no significant differences in terms of gender in frequency of sugary/gassy beverage consumption ($p=0.133$).

Smoking and alcohol consumption are often seen as threats to a healthy life style (23). It was appropriate in this context, therefore, to investigate the smoking and drinking habits of the students. Our results indicated that students drink alcohol either rarely (45.7 %) or never (40.2 %). 48.4 % of female and 34.7 % of male students reported that they never drink. The differences in terms of gender were found to be statistically significant in this case ($p=0.000$). Non-smokers (50.5 %) are equal to half of the sample in our survey. Among those who smoke, male students (45.0 %) predominated compared to female students (24.8 %). Again, significant differences in terms of gender were found in this case ($p=0.000$).

The majority of the students (74.7 %) reported that they exercise irregularly. 83.4 % of female and % 68.8 of male students reported that they exercise irregularly. With regard to frequency of exercise routines, there were found to be significant differences in terms of gender ($p=0.001$).

83.0 % of students sleep irregularly. The figures were very similar for both genders, with 83.1 % of males reporting irregular sleeping patterns, compared to 82.8 % for females so there were no significant differences in terms of gender here (p=0.936).

Psychological factors affecting eating habits

The Compulsive Eating Scale (CES) is a commonly-used and widely-respected tool for the measurement of psychological factors which affect eating habits (13, 19). Although the number of students categorized as obese in this study was not high, approximately one quarter of the students (24.5 %) falls into the pre-obese class. This scale was chosen, therefore, to help identify and measure those psychological factors which affect eating habits of the students.

CES results according to gender are given in Table 4. Cronbach's alpha coefficient for the CES was 0.73 which confirms that the scale was reliable. There were significant differences in terms of gender between the various items: "Eat because of feeling lonely", "Eat because of feeling upset or nervous", "Eat because feeling bored" and "Eat because feeling happy" .

Most of the students (65.2 %) feel that they do not eat because of feeling lonely. 72.7 % of male students and 54.1 % of female students reported that they do not think loneliness was a factor in their eating patterns.

Most of the students do not feel they are out of control with their eating, whereby they might continue eating until their stomach hurts. Also, eating due to feeling upset or nervous was not a common experience for most of the students (73.2 %). No differences in terms of gender were found for eating due to feeling upset or nervous (p=0.000), but the figure reported for males (85.3 %) was much higher than that for female students (55.4 %).

A significant difference in terms of gender was found for eating due to feeling bored and due to feeling happy (Table 4). More than half of the students said they eat because of feelings of boredom (52.1 %) or feelings of happiness (54.4 %). Female students (68.2 %) tend to eat more when they are bored than males (41.1 %). Also, more females (65.0 %) were found to eat due to feeling happy, compared to male students (47.2 %).

Discussion

The aim of this study was to investigate differences in terms of gender in eating habits of the university students and the extent to which these behavioral patterns are affected by psychological factors. First, the age, weight, height and BMI averages of the university students were compared to identify differences in terms of gender. Applied tests revealed all characteristics to be statistically significant for differences in terms of gender. These results are similar to those found in previous studies in Turkey (5) and in the Lebanon (18), while the values for the age, weight, height and BMI variables are

Table 4. Psychological factors affecting eating habits according to gender

	Answers	Total		Females		Males		
Psychological factors		**N**	**%**	**N**	**%**	**N**	**%**	**P** [a]
Eating because of feeling lonely	Yes	135	34.8	72	45.9	63	27.3	0.000
	No	253	65.2	85	54.1	168	72.7	
Feel completely out of control when it comes to food	Yes	124	32.0	56	35.7	68	29.4	n.s*
	No	264	68.0	101	64.3	163	70.6	
Eat so much until stomach hurts	Yes	116	29.9	55	35.0	61	26.4	n.s*
	No	272	70.1	102	65.0	170	73.6	
Eat because of feeling upset of nervous	Yes	104	26.8	70	44.6	34	14.7	0.000
	No	284	73.2	87	55.4	197	85.3	
Eat because of feeling bored	Yes	202	52.1	107	68.2	95	41.1	0.000
	No	186	47.9	50	31.8	136	58.9	
Eat because of feeling happy	Yes	211	54.4	102	65.0	109	47.2	0.001
	No	177	45.6	55	35.0	122	52.8	

[a] Chi-square test was used to compare means between categories (p<0.01). *n.s=not significant,
%= equal to 100.0 % vertically

high compared to those studies for Korea and Japan (17).

BMI classification guidelines were used to decide the weight status of the university students. This showed that the majority of students fell into the normal weight class, though normal weight was more common among females (70.0 %) than males (58.9 %). Similar results were also found for Turkish female (77.7 %) and male university students (69.5 %) (5). On the other hand, pre-obesity and obesity were more prevalent among male students than the females, while the underweight condition was more common in female students than the males. The lower rate of obesity and higher rate of underweight status among female students were expected, as it is generally acknowledged that females tend to be more sensitive and more cautious about their weight than males, due to societal pressures which encourage females to be slimmer (18, 24). Similar results regarding the prevalence of male obesity were reported by researchers for other countries (18-25-26). However, a study conducted in Malaysia found a higher proportion of students to be (22.7 %) in the underweight and obese classes (7.6 %) (13) than in this study. Furthermore, another study conducted in Malaysia showed that females (20.9 %) ranked higher than males (16.7 %) in the obese class (27), in direct contradiction to this study's findings.

A large majority of students in this study (78.0 %) were found not to take regular meals, while less than half of students (45.3 %) reported this pattern in Korea and Japan (17) and also in Malaysia (42.4 %) (13). In the present study, female students (86.0 %) reported less regular meal intake than male students (72.7 %) and the differences in terms of gender were found to be significant. However, it was found in a study in Lebanon that a greater number of male university students (64.6 %) reported irregular meal intake than females (58.9 %) (18). This contradicted in the present study's own findings, but the differences in terms of gender were not statistically significant.

The figure for students eating regular daily breakfast in this study (47.7 %) was lower than the results from the study among Korean and Japan university students (56.2 %) (17), but in turn was higher than those for Lebanese university students (31.8 %) (18). This study showed a statistically significant difference in terms of gender here, but the same finding was not reported by the other study (18).

Asian students (53.8 %) have a habit of eating three main meals in a day, while most of the students (54.8 %) in the present study and in the Lebanese study (52.7 %) eat only two main meals per day on a regular basis (17, 18). There was also found to be a significant relationship between meal frequency and gender, which corresponds with findings in this study (18).

Students in this study reported eating vegetables once or twice per week (28.4 %) or rarely (29.1 %), while students in Lebanon eat vegetables daily (30.4 %) or three or four times per week (30.9 %). Females (31.2 %) were found to eat more fresh vegetables each day than male students (20.4 %) in this study. The differences in terms of gender were significant for eating vegetables, but not for fruit. Fruit consumption is much higher among Lebanese than Turkish students (18).

Although this study showed that students' meal habits tended to be irregular, it was evident that fast food consumption (which refers here to such products as pizzas, hamburgers, fried foods, junk food and sugary/gassy drinks) was not a common feature of their lifestyle. Fried food consumption was more prevalent in the Lebanese study than for Turkish students (18). Only junk food eating habits were found to show a significant difference in terms of gender, with male students (46.3 %) eating junk food more often than females (31.8 %).

Alcohol and cigarette consumption were found not to be common among the students. The figure for smokers (36.9 %) was almost identical to results from other studies (36.0 %) (28). However, studies in the literature across different countries show varying results for alcohol intake among university students. For example, a study conducted in Hungary (90.0 %) (29), and another in Ethiopia (11.4 %) (30) starkly reflect the cultural differences between nations. This study found a statistically significant relationship between gender and alcohol and smoking habits. The percentages for female students who stated they never drink alcohol and who never smoke were 48.4 % and 63.7 %, respectively, compared to 34.7 % and 41.6 % for male students.

In this study, nearly three out of four university students (74.7 %) indicated that a regular exercise routine is not part of their lifestyle and here there were significant differences in terms of gender. Female students (83.4 %) reported less regular exercise routines than the males (68.8 %).

Sleeping patterns of the students were generally not regular and there were no significant differences by gender.

Psychological factors can have an important influence on students' eating habits according to CES (13, 19). In their responses to the prescribed CES statements, results for the Turkish university students in this study indicated that: they do not feel that they eat because of feeling lonely (65.2 %); they do not feel they eat because they feel completely out of control when it comes to food (68.0 %); they do not feel they have to eat until their stomachs hurt (70.1 %); and they do not feel they eat because of feeling upset or nervous (73.2 %). It is evident that these results clearly contradict the findings of Ganasegeran et al. (13). Their study on pre-clinical stage medical students in Malaysia found the following: they eat because they feel out of control when it comes to food (62.1 %); they eat until their stomachs hurt (53. 8 %). They eat because of feeling upset or nervous (53.0 %) and they eat because they are feeling lonely (48.5 %), respectively (13). It is explained that the medical students have a very busy and difficult lecture schedule. However, the majority of Turkish agricultural engineering students and Malaysian medical students both reported that they tend to eat more due to feeling bored (52.1 % and 59.1 % respectively) and also because of feeling happy (54.4 % and 80.3 %). In the present study there were significant differences in terms of gender between eating because of feeling lonely, eating because of feeling upset or nervous, eating because of feeling bored and eating because of feeling happy. A clear division by gender was evident across the four conditions: females have a greater tendency than males to eat due to feeling lonely, feeling upset or nervous, feeling bored or feeling happy.

Limitations

Scope to generalize the findings of this study is limited by the fact that the sample of students was selected from just one university, and from one faculty and, therefore, may not be representative of all university students and agricultural faculties in Turkey. However, valuable baseline information was obtained about personal characteristics of a sample of agricultural engineering students, their eating habits and the psychological factors affecting these habits. It is recommended that the scope of research in future should be broadened to include a larger representative sample, encompassing students from different the Departments of Agricultural Engineering in universities across the country.

Conclusion

The majority of the students did not demonstrate particularly healthy eating patterns when considered in terms of frequency of meals, regular daily breakfasts, daily fresh fruit and vegetable intake, or in maintaining a regular pattern of three main meals in a day. On the other hand, they reported that they rarely opted to eat fast food-style meals. Moreover, levels of smoking and drinking alcohol were found to be lower than expected. Even though the majority of students were classified as 'normal' weight, the fact that almost one quarter of them were found to be in the 'pre-obesity' classification was significant, with potentially serious implications for the future. It is important, therefore, that students develop more regular eating habits, more regular sleeping patterns and better exercise routines in order to maintain their weight safely within the 'normal' category. Obesity was found to be more common among male students, while 'underweight' status was more prevalent among the females. It was indicated that psychological factors can be an important influence on eating habits among agricultural engineering students. It is apparent that nutritional education needs to be encouraged among agricultural engineering students, and among students in general, to promote healthier eating habits and lifestyles, and to foster closer adherence to a healthy traditional diet. Thus, it is recommended that exercising and healthy eating activities should be promoted more actively around the campus. Students' attention needs to be directly channeled towards these activities. Orientation programs should be organized to improve students' home cooking skills, combined with food workshops across the campus demonstrating healthy and tasty meals. There is also scope for the development of nutritional campaigns such as "bring your own healthy food" for the benefit of university students in general.

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