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The impact of university students' accommodation environments on their dietary choices

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ABSTRACT

As students transition from family homes to university life, they make autonomous decisions, including dietary choices. This phase plays a crucial role in the formation of their eating habits. The research was conducted between February and May 2023, with 430 university students included. Survey questions were applied to the participants to evaluate their socio-demographic characteristics, eating habits, and food consumption. Their food preferences and tendency towards food obsession depending on their living environment were assessed using the "Power Food Scale". The mean age of the participants was 21.0 ±2.67, and the mean body mass index was 21.3 ±3.03 kg/m^2. The findings revealed that 32.5% of the participants resided with their families, whereas 45.4% were accommodated in dormitories. A statistically significant difference was stated in the frequency of meat products, legumes, pasta, rice, fruit, and vegetable consumption among university students based on their residence ($p<0.05$). It was determined that the other food preferences questioned by the participants did not have a statistically significant effect on the accommodation environment ($p>0.05$). The mean nutritional power of the students participating in the research was 2.95 ±0.74. In other words, it has been determined that they are sensitive to foods containing delicious foods. This study can inform the development of targeted strategies to analyse university students' eating habits, address unhealthy eating, and promote better health.

Keywords: Dietary behaviour, Food Environment, Nutrition, Power food scale, University student

Introduction

Food is one of the physiological requirements, which is the first human need. Nutrition is the process of getting and using in the body the ingredients required for growth, development, and long-term health and productivity. It is impossible for a society that does not have adequate and balanced nutrition to live in a healthy and functional capacity and increase its economic and social welfare (Sonkaya et al., 2018). Mindful consumers are well-organized individuals who strive to optimise their purchases of goods or services, factor in their actual needs, engage in methodical and well-documented shopping, demonstrate the wisdom to select high-quality, health-conscious products, align their choices with their budget and prioritise their savings. It is an indisputable socioeconomic factor that ensures quality and oversees it, progressively steering the economy toward increased efficiency (Hekimci, 2011). As food serves as the human body's primary energy source, eating has evolved into more than simply fulfilling metabolic requirements for numerous individuals. Today, with the growing abundance and ease of access to food, people indulge in eating not only for metabolic necessity but also for the sheer enjoyment and gratification it brings. (Yılmaz & Saka, 2019).

Food intake is an important issue that has huge health and economic consequences. According to studies, the majority of university students generally have bad eating habits. This implies that although some younger consumers may have concerns about certain traditionally prepared dishes, they often adapt and are significantly influenced by the cost of food (Deric et al., 2017). Moreover, research among university students reveals an imbalanced dietary pattern with a high intake of lipids and significantly low consumption of carbohydrates and dietary fibre (Martínez Álvarez et al., 2015). The Turkey Nutritional Guide (2022) showed that the Recommended Dietary Allowances (RDA) of micronutrients other than folic acid, calcium (Ca), magnesium (Mg), and vitamin E was sufficient, while the Estimated Average Requirement (EAR) for these nutrients was not met (TÜBER 2022). Young adults' eating preferences are influenced by their shift from dependent living at home to independent life (Piggford et al., 2008). Unlike before university, young adults attending higher education institutions who live away from home are no longer strictly supervised by their families regarding their daily dietary consumption (Li et al., 2022). Therefore, the transition period to university life is the most important period for food selection. It is when people first set out independently and begin making their own food decisions (Marquis, 2005). The adjustment to university life comes with an increase in the changes in dietary habits, which has a substantial negative influence on health. Considering the dietary habits of university students, they are concerned about healthy nutrition. Studies on university students' food consumption habits and nutritional awareness have shown that changes in the students' accommodation environments affect lifestyle factors such as food preferences (El Ansari et al., 2012). Food environments on a university campus consist of a relatively fixed variety of options and closer contact with individuals. The exact impact of the university dining environment on students' eating habits remains unclear. It is important to determine how this environment affects the nutritional behaviour of university students, especially during the transition from adolescence to adulthood. Understanding this connection is crucial to promoting healthier eating behaviours on campus and requires further research (Li et al., 2022). Analysing the eating habits of university students can aid in developing and implementing targeted strategies aimed at significantly mitigating the adverse impacts of unhealthy diets on health.

This research aims to assess whether university students' dietary preferences vary depending on their place of residence (dormitory, family home, student housing).

Materials and Methods

The study received approval from the Afyonkarahisar Health Sciences University Non-Interventional Clinical Research Ethics Committee during meeting number 2023/1 on January 6, 2023. The study's data was gathered from an online questionnaire given to 430 students who volunteered to participate and attended school between February and May of the 2022–2023 academic year. The study is of a descriptive type. According to 2022-2023 academic year data, there are 6.950.142 students in 208 higher education institutions (YÖK, 2023). The sample size was determined to be 384 people, with an effect size of 0.2, an error rate of 0.05, and a power of 95 percent. (SSC, 2023). An online questionnaire was sent to 430 participants who agreed to participate in the study, and their consent was obtained. The inclusion requirements include being an active student at universities affiliated with YÖK and willing to participate in the study. Those who were not active students when the study was conducted and those who did not want to participate were excluded.

In this study, data was collected using a 36-question survey form consisting of 3 sections with an online method. In the first part, there were questions about the socio-demographic characteristics of the participants (age, height, weight, gen-

der, living area, department of study and general health status). The second part included questions about the participants' eating habits and consumption frequencies. The third part is the Power Food Scale (Hayzaran, 2018). Body mass index (BMI) is evaluated (by dividing body weight (kg) by the square of height (m^2)) according to the World Health Organization, a BMI value below 18.5 kg/m^2 is defined as underweight; being between 18.5-24.99 kg/m^2 is normal weight; between 25.0-29.9 kg/m^2 is defined as overweight and over 30 kg/m^2 as obesity (WHO, 2023).

The scale, published under the name Power Food Scale (PFS), was developed by Lowe et al. (2009) to evaluate the sensitivity of individuals to food in the presence of delicious food stimuli and the effect of delicious foods on the hedonic hunger state and psychology of individuals (Lowe et al., 2009). PFS reveals a widespread propensity for food obsession (Lowe & Butryn, 2007). According to Ülker et al. (2021), the version customised for Turkish culture was tested for validity and reliability. The Cronbach's alpha coefficient was 0.922 for PFS (Ulker et al., 2021). PFS consists of 15 items and is in the form of a 5-point Likert scale. Scale items receive responses ranging from "strongly disagree" to "strongly agree". In scale scoring, answers to items are scored between 1 and 5. According to the five-point rating system, an average score over 2.5 means that the person is sensitive to food and that food has psychological control over the person. PFS includes a total score as well as three distinct subscales: food available (FA), food present (FP), and food tasted (FT). Items 1, 2, 5, 10, 11, and 13 on the subscale of food available measure general food-related beliefs. Second, the food present subscale (items 3, 4, 6, and 7) measures a person's attraction to readily available food. Finally, the food tasted subscale (items 8, 9, 12, 14, and 15) assesses the desire for or enjoyment obtained from food at first taste. The PFS total and subscale scores are calculated by adding the item scores and dividing the total by the number of items (Bülbül & Doğuer, 2022).

Standard deviation ($\bar{X}$ ±SD), frequency, and percentage values were used as descriptive statistical methods to evaluate the total data. The chi-square test ($\chi 2$) evaluated the relationship between categorical variables. When evaluating the data, α=0.05, and accordingly, the confidence interval was determined as 95%, and significance was evaluated at $p<0.05$. Statistical analysis of the data was performed in the SPSS v26 package program.

Results and Discussion

Of the 430 university students who participated in the research, 74.4% (n=320) were female, and 25.6% (n=110) were male. The mean age of the participants was 21.0 ±2.67. The mean age was 21.00 ±2.538 in women; in males, it was found to be 21.00 ±3.054. The mean body mass index (BMI) was 21.3 ±3.03 kg/m^2. While the mean BMI of female participants was 20.7 ±2.91 kg/m2, the mean BMI of male participants was 22.9 ±3.38. The participants' mean weight is 60.0 ±12.31 kg (min. 40 kg - max. 103 kg), and the mean height is 1.67 ±0.89 m (min. 1.50 m - max. 1.93 m). The mean weight of the female participants is 56.0 ±9.56 kg (min. 40 kg - max. 98 kg), and the mean height is 1.64 ±6.26 m (min. 1.50 m - max. 1.82 m). As for the male participants, the mean weight of the participants is 71.6 ±8.96 kg (min. 55 kg - max. 103 kg), and the mean height is 1.76 ±6.27 m (min. 1.50 m - max. 1.93 m). Among the participants, 87.0% (n=374) had no chronic diseases, whereas 13.0% reported having a chronic disease. The findings revealed that 32.5% (n=140) of the study participants resided with their families, while 45.4% (n=195) were accommodated in a dormitory. Within the dormitory category, 35.5% stayed in state dormitories and 14.9% in private dormitories (Table 1).

The rate of those who reported eating at least three meals daily is 43.7% (n = 188). It has been determined that the rate of those who regularly consume breakfast, lunch, and dinner daily in terms of meal preference is higher than those who skip meals. Additionally, 43.0% of the participants said they sometimes consumed snacks, and 45.8% consumed snacks at night. It was observed that the highest snack consumption preference at night was toast/sandwich, with 22.4% (Table 2).

Most participants were found to eat eggs (35.1%) regularly, cheese (42.4%), whole grains (34.2%), white bread (39.3%), fruit (37.3%), and vegetables (34.9%). Furthermore, many participants indicated they consumed fast food, fish, processed meats, and fried foods once a month (56.3%, 68.4%, 47.4%, and 42.3%, respectively). Black tea (52.1%) and coffee (47.2%) were found to be the most often consumed beverages, while most individuals (27.0%) reported consuming fruit juice and soda once a month. More than half of the participants (58.1%) do not use noddle (Table 3).

Table 1. Socio-demographical characteristics of university students

Variables	n (430)	% (100)
Gender		
Male	110	25.6
Female	320	74.4
Age ($\bar{X}$ ± SD)	21.0±2.67	
BMI Classification		
Underweight (<18.5 kg/m^2)	47	10.9
Normal (18.5 – 24.9 kg/m^2)	238	55.3
Pre-obese (>25.0 kg/m^2)	145	33.7
Accommodation		
At home with family	140	32.5
At State dormitory	131	30.5
At Private dormitory	64	14.9
At home with friends	39	9.1
Alone	56	13.0
Department		
Faculty of Agriculture	2	0.5
Faculty of Architecture and Engineering	52	12.1
Faculty of Aviation and Astronautics	9	2.1
Faculty of Business and Economics	12	2.8
Faculty of Dentistry	24	5.6
Faculty of Health Sciences	154	35.8
Faculty of Law	6	1.4
Faculty of Medicine	68	15.8
Faculty of Pharmacy	54	12.5
Faculty of Sciences and Literature	16	3.7
Faculty of Tourism	10	2.3
Faculty of Veterinary Medicine	14	3.3
İslamic Studies	4	0.9
Military School	2	0.5
Vocational School of Health	3	0.7
Diagnosed Disease Status		
No	374	87.0
Asthma – COPD	4	0.9
Cardiovascular diseases	3	0.7
Diabetes	3	0.7
FMF (Familial Mediterranean Fever)	1	0.2
Gastrointestinal diseases	26	6.1
Kidney disease	4	0.9
Migraine	2	0.5
PCOS (Polycystic ovary syndrome)	4	0.9
Pollen and Food Allergy	3	0.7
Rheumatic diseases	4	0.9
Thyroid	2	0.5

Table 2. University students' meal plan table

Number of Meals per Day									**n (430)**	**% (100)**
2									132	30.7
3									188	43.7
4									72	16.7
5 and more									38	8.8
Meal Consumption Status	**Breakfast**		**Lunch**		**Dinner**		**Snack**		**Snack at night**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
None	9	2.1	44	10.2	2	0.5	36	8.4	162	37.7
Sometimes	59	13.7	132	30.7	5	1.2	185	43.0	197	45.8
Generally	80	18.6	113	26.3	44	10.2	122	28.4	39	9.1
Every day	282	65.6	141	32.8	379	88.1	87	20.2	32	7.4
Preferred food for Snacks at night									**n(268)**	**%(100)**
Chocolate/Wafer/Confectionery									46	17.2
Crackers/Biscuits									44	16.4
Pastry/Bagel/Pastry									2	0.7
Toast/Sandwich									60	22.4
Fast Food									20	7.5
Chips/Funk food									8	3.0
Pasta/Rice									3	1.1
Milk/Yogurt									17	6.3
Fresh/Dried Fruit									42	15.7
Nuts									26	9.7

Table 3. University students' food consumption frequency table

Consumption Frequency	**None**		**Daily**		**2-3 times a week**		**Once a week**		**Once a month**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Fast Food	15	3.5	9	2.1	31	7.2	133	30.9	242	56.3
Red Meat	16	3.7	21	4.9	53	12.3	203	47.2	137	31.9
Chicken	7	1.6	17	3.9	82	19.1	248	57.7	76	17.7
Fish	73	17.0	0	0.0	4	0.9	59	13.7	294	68.4
Processed Meat Product	62	14.4	10	2.4	41	9.5	113	26.3	204	47.4
Egg	21	4.9	151	35.1	113	26.3	112	26.0	33	7.7
Milk	36	8.4	69	16.1	72	16.7	152	35.3	101	23.5
Yoghurt	19	4.4	105	24.4	114	26.5	156	36.3	36	8.4
Cheese	23	5.3	182	42.4	94	21.9	102	23.7	29	6.7
Whole Grain Foods	32	7.4	147	34.2	96	22.3	98	22.8	57	13.3
White Bread	41	9.5	169	39.3	74	17.2	95	22.1	51	11.9
Pasta and Rice	9	2.1	92	21.4	148	34.4	140	32.6	41	9.5
Noodle	250	58.1	6	1.4	28	6.5	46	10.7	100	23.3
Legumes	9	2.1	38	8.8	107	24.9	199	46.3	77	17.9
Fruit	3	0.7	160	37.3	115	26.7	115	26.7	37	8.6
Vegetable	6	1.4	150	34.9	129	30.0	121	28.1	24	5.6
Fried Foods	11	2.6	14	3.3	68	15.8	155	36.0	182	42.3
Nuts	13	3.0	76	17.7	84	19.5	157	36.5	100	23.3
Junk Food	15	3.5	84	19.6	72	16.7	158	36.7	101	23.5
Black Tea	38	8.8	224	52.1	63	14.7	79	18.4	26	6.0
Coffee	25	5.8	203	47.2	57	13.3	98	22.8	47	10.9
Fruit juice and Soda	76	17.7	37	8.5	91	21.2	110	25.6	116	27.0

As indicated in Table 4, a statistically significant difference was observed in the frequency of consumption of red meat, chicken, fish, legumes, pasta and rice, fruits, and vegetables based on the living arrangements of university students during their academic pursuits. ($p<0.05$). No statistically significant influence was found for other food items based on the participants' living arrangements ($p>0.05$).

The mean food strength of the students participating in the research was 2.95 ±0.74, the mean of the food availability sub-dimension was 2.59 ±0.88, the mean of the food availability sub-dimension was 3.09 ±0.89, and the mean of the food taste sub-dimension was 3.28 ±0.84. It shows that participants were sensitive to food in the presence of palatable food (Table 5).

In the study, when evaluating PFS scores according to gender, it was determined that female participants exhibited greater sensitivity to foods than men. However, when examining participants' sensitivity to foods based on gender, no statistically significant effect was found ($p>0.05$). Similarly, when analysing PFS scores according to BMI classification, it was observed that participants with normal BMI levels displayed higher sensitivity to foods than others. Nonetheless, when investigating participants' sensitivity to foods according to BMI classification, no statistically significant effect was observed ($p>0.05$) (Table 6).

El Ansari et al. (2012) examined the food consumption of university students in 4 different countries and showed that cultural and regional factors may affect the dietary preferences of young adults. The study found frequent consumption of unhealthy food items (e.g., chips and fast food) is common among university students (El Ansari et al., 2012). Similar to our research, students residing with their parents tended to healthier eating habits, including a higher consumption of fruits, vegetables, and meat, compared to those living away from home. A similar study found significant differences in food preferences of 152 university students living on campus, off-campus, and in Greek residences, depending on their place of residence. It was found that fish consumption was significantly higher among students eating in on-campus dining halls. At the same time, off-campus students were less likely to consume fresh vegetables and fruits daily. Regarding meat consumption, men's chicken, beef, pork, and fish consumption was higher than women's. These findings show differences in food consumption patterns and nutritional practices among university students, depending on living arrangements and gender. The study provides information about students' eating habits during that period, which can inform efforts to promote healthier diets and lifestyles among university students (Beerman et al., 1990). Another study on university students found that fast food restaurants were the primary food source for students away from home, with 25% of participants purchasing fast food daily. The study concluded that most students buy their food from supermarkets, and fast food is a popular choice for eating out (Deric et al., 2017).

In Australia, individuals residing in family homes were observed to have a significantly more positive attitude toward healthy eating. However, there was no significant difference in their food preferences based on their residence, except for vegetable consumption. Additionally, a significant, positive relationship was found between attitudes toward healthy eating and the recommended number of servings in both independent and homestay living arrangements (Piggford et al., 2008). Those living with their families tended to consume more servings of vegetables and fruits than independent students. They were also found to consume more portions of various food groups. It turns out that students, especially those under 21, have a more positive attitude towards healthy eating and tend to consume more portions of certain food groups. The study concluded that students living with host families had different eating habits than other students and that this was potentially influenced by factors such as parental control (Harker et al., 2010). Ryan et al. (2022) found that adolescent students generally choose healthier foods at home and perceive home as a place where "healthier" and "fresh" foods are available. They also determined that they saw the time when choosing meals at school as an opportunity to turn to less healthy options (Ryan et al., 2022). Briefly, students living with their parents generally exhibited healthier eating habits, although there were some exceptions. These findings suggest the need for targeted interventions and educational programs to promote healthier eating habits among university students, especially those living away from home. A systemic review determined that students purchased a significant portion of their food intake from nearby stores off campus. It has been observed that students living off campus consume more fast food and have less healthy eating habits. However, these studies did not evaluate the health index of the products available at food outlets on campus. Additionally, frequent purchases of food and beverages in the campus environment have been associated with lower dietary quality, including higher fat consumption and added sugars (Li et al., 2022).

Tablo 4. Food consumption preferences of university students by their accommodation environment

	Accommodation	None		Daily		2-3 times a week		Once a week		Once a month		p-value / $\chi 2$
		n	%	n	%	n	%	n	%	n	%	
Fast Food	At home with family	5	3.6	4	2.9	11	7.9	37	26.4	83	59.2	
	At State dormitory	6	4.6	3	2.3	6	4.6	49	37.4	67	51.1	
	At Private dormitory	1	1.6	1	1.6	5	7.8	21	32.7	36	56.3	0.986 / 15.543
	At home with friends	2	5.1	0	0.0	4	10.3	10	25.6	23	59.0	
	Alone	1	1.8	1	1.8	5	8.9	16	28.6	33	58.9	
Red Meat	At home with family	3	2.14	9	6.43	19	13.57	64	45.71	45	32.14	
	At State dormitory	4	3.05	10	7.63	22	16.79	59	45.04	36	27.48	
	At Private dormitory	1	1.56	1	1.56	5	7.81	32	50.00	25	39.06	0.000 / 68.920
	At home with friends	6	15.38	0	0.00	2	5.13	17	43.59	14	35.90	
	Alone	2	3.57	1	1.79	5	8.93	31	55.36	17	30.36	
Chicken	At home with family	0	0.00	8	5.71	17	12.14	81	57.86	34	24.29	
	At State dormitory	3	2.29	7	5.34	34	25.95	72	54.96	15	11.45	
	At Private dormitory	0	0.00	1	1.56	11	17.19	41	64.06	11	17.19	0.000 / 71.793
	At home with friends	2	5.13	0	0.00	11	28.21	20	51.28	6	15.38	
	Alone	2	3.57	1	1.79	9	16.07	34	60.71	10	17.86	
Fish	At home with family	18	12.86	0	0.00	1	0.71	22	15.71	99	70.71	
	At State dormitory	17	12.98	0	0.00	2	1.53	13	9.92	99	75.57	
	At Private dormitory	17	26.56	0	0.00	0	0.00	16	25.00	31	48.44	0.013 / 33.808
	At home with friends	8	20.51	0	0.00	1	2.56	4	10.26	26	66.67	
	Alone	13	23.21	0	0.00	0	0.00	4	7.14	39	69.64	
Processed Meat Prod.	At home with family	25	17.86	4	2.86	13	9.29	30	21.43	68	48.57	
	At State dormitory	14	10.69	3	2.29	17	12.98	42	32.06	55	41.98	
	At Private dormitory	6	9.38	2	3.13	3	4.69	18	28.13	35	54.69	0.279 / 34.044
	At home with friends	4	10.26	1	2.56	3	7.69	10	25.64	21	53.85	
	Alone	13	23.21	0	0.00	5	8.93	13	23.21	25	44.64	
Egg	At home with family	7	5.00	55	39.29	37	26.43	34	24.29	7	5.00	
	At State dormitory	6	4.58	43	32.82	43	32.82	28	21.37	11	8.40	
	At Private dormitory	3	4.69	25	39.06	10	15.63	20	31.25	6	9.38	0.230 / 35.347
	At home with friends	2	5.13	10	25.64	7	17.95	15	38.46	5	12.82	
	Alone	3	5.36	18	32.14	16	28.57	15	26.79	4	7.14	
Milk	At home with family	7	5.00	29	20.71	24	17.14	50	35.71	30	21.43	
	At State dormitory	18	13.74	12	9.16	21	16.03	43	32.82	37	28.24	
	At Private dormitory	3	4.69	8	12.50	12	18.75	27	42.19	14	21.88	0.197 / 36.360
	At home with friends	3	7.69	4	10.26	4	10.26	15	38.46	13	33.33	
	Alone	5	8.93	16	28.57	11	19.64	17	30.36	7	12.50	
Yoghurt	At home with family	4	2.86	42	30.00	41	29.29	44	31.43	9	6.43	
	At State dormitory	5	3.82	23	17.56	33	25.19	56	42.75	14	10.69	
	At Private dormitory	3	4.69	18	28.13	12	18.75	25	39.06	6	9.38	0.608 / 27.297
	At home with friends	4	10.26	7	17.95	9	23.08	14	35.90	5	12.82	
	Alone	3	5.36	15	26.79	19	33.93	17	30.36	2	3.57	
Cheese	At home with family	11	7.86	66	47.14	26	18.57	28	20.00	9	6.43	
	At State dormitory	3	2.29	52	39.69	33	25.19	32	24.43	11	8.40	
	At Private dormitory	2	3.13	30	46.88	14	21.88	15	23.44	3	4.69	0.701 / 25.492
	At home with friends	4	10.26	13	33.33	6	15.38	12	30.77	4	10.26	
	Alone	3	5.36	21	37.50	15	26.79	15	26.79	2	3.57	

Whole Grain Foods	At home with family	9	6.43	50	35.71	32	22.86	35	25.00	14	10.00	
	At State dormitory	12	9.16	44	33.59	25	19.08	29	22.14	21	16.03	
	At Private dormitory	6	9.38	21	32.81	20	31.25	9	14.06	8	12.50	0.770 / 24.041
	At home with friends	4	10.26	13	33.33	5	12.82	11	28.21	6	15.38	
	Alone	1	1.79	19	33.93	14	25.00	14	25.00	8	14.29	
White Bread	At home with family	15	10.71	58	41.43	24	17.14	26	18.57	17	12.14	
	At State dormitory	10	7.63	58	44.27	20	15.27	31	23.66	12	9.16	
	At Private dormitory	3	4.69	31	48.44	13	20.31	9	14.06	8	12.50	0.145 / 38.169
	At home with friends	4	10.26	6	15.38	8	20.51	16	41.03	5	12.82	
	Alone	9	16.07	16	28.57	9	16.07	13	23.21	9	16.07	
Pasta and Rice	At home with family	4	2.86	32	22.86	49	35.00	38	27.14	17	12.14	
	At State dormitory	4	3.05	29	22.14	47	35.88	39	29.77	12	9.16	
	At Private dormitory	0	0.00	18	28.13	23	35.94	17	26.56	6	9.38	0.003 / 55.651
	At home with friends	0	0.00	4	10.26	8	20.51	22	56.41	5	12.82	
	Alone	1	1.79	9	16.07	21	37.50	24	42.86	1	1.79	
Noodle	At home with family	82	58.57	3	2.14	5	3.57	12	8.57	38	27.14	
	At State dormitory	73	55.73	1	0.76	11	8.40	15	11.45	31	23.66	
	At Private dormitory	41	64.06	1	1.56	5	7.81	9	14.06	8	12.50	0.952 / 13.734
	At home with friends	22	56.41	0	0.00	4	10.26	5	12.82	8	20.51	
	Alone	32	57.14	1	1.79	3	5.36	5	8.93	15	26.79	
Legumes	At home with family	4	2.86	6	4.29	32	22.86	64	45.71	34	24.29	
	At State dormitory	3	2.29	17	12.98	36	27.48	59	45.04	16	12.21	
	At Private dormitory	0	0.00	5	7.81	19	29.69	34	53.13	6	9.38	0.000 / 64.106
	At home with friends	2	5.13	6	15.38	3	7.69	22	56.41	6	15.38	
	Alone	0	0.00	4	7.14	17	30.36	20	35.71	15	26.79	
Fruit	At home with family	0	0.00	63	45.00	29	20.71	37	26.43	11	7.86	
	At State dormitory	1	0.76	37	28.24	43	32.82	38	29.01	12	9.16	
	At Private dormitory	2	3.13	26	40.63	23	35.94	11	17.19	2	3.13	0.000 / 65.913
	At home with friends	0	0.00	10	25.64	5	12.82	16	41.03	8	20.51	
	Alone	0	0.00	24	42.86	15	26.79	13	23.21	4	7.14	
Vegetable	At home with family	1	0.71	63	45.00	40	28.57	29	20.71	7	5.00	
	At State dormitory	3	2.29	37	28.24	41	31.30	42	32.06	8	6.11	
	At Private dormitory	0	0.00	18	28.13	28	43.75	15	23.44	3	4.69	0.000 / 110.097
	At home with friends	0	0.00	10	25.64	8	20.51	17	43.59	4	10.26	
	Alone	2	3.57	22	39.29	12	21.43	18	32.14	2	3.57	
Fried Foods	At home with family	5	3.57	5	3.57	24	17.14	45	32.14	61	43.57	
	At State dormitory	2	1.53	8	6.11	21	16.03	50	38.17	50	38.17	
	At Private dormitory	0	0.00	0	0.00	13	20.31	31	48.44	20	31.25	0.239 / 35.184
	At home with friends	0	0.00	0	0.00	4	10.26	11	28.21	24	61.54	
	Alone	4	7.14	1	1.79	6	10.71	18	32.14	27	48.21	
Nuts	At home with family	3	2.14	24	17.14	25	17.86	46	32.86	42	30.00	
	At State dormitory	4	3.05	21	16.03	25	19.08	48	36.64	33	25.19	
	At Private dormitory	2	3.13	13	20.31	17	26.56	22	34.38	10	15.63	0.113 / 39.577
	At home with friends	0	0.00	6	15.38	3	7.69	22	56.41	8	20.51	
	Alone	4	7.14	12	21.43	14	25.00	19	33.93	7	12.50	
Junk Food	At home with family	5	3.57	24	17.14	20	14.29	50	35.71	41	29.29	
	At State dormitory	8	6.11	26	19.85	23	17.56	48	36.64	26	19.85	
	At Private dormitory	0	0.00	14	21.88	11	17.19	28	43.75	11	17.19	0.571 / 27.984
	At home with friends	0	0.00	7	17.95	5	12.82	17	43.59	10	25.64	
	Alone	2	3.57	13	23.21	13	23.21	15	26.79	13	23.21	
Black Tea	At home with family	11	7.86	81	57.86	16	11.43	20	14.29	12	8.57	
	At State dormitory	10	7.63	72	54.96	20	15.27	24	18.32	5	3.82	0.053 / 43.526
	At Private dormitory	4	6.25	37	57.81	8	12.50	10	15.63	5	7.81	

	At home with friends	5	12.82	10	25.64	10	25.64	12	30.77	2	5.13	
	Alone	8	14.29	24	42.86	9	16.07	13	23.21	2	3.57	
Coffee	At home with family	6	4.29	65	46.43	20	14.29	30	21.43	19	13.57	
	At State dormitory	8	6.11	61	46.56	19	14.50	30	22.90	13	9.92	
	At Private dormitory	6	9.38	32	50.00	9	14.06	11	17.19	6	9.38	0.463 / 30.053
	At home with friends	2	5.13	16	41.03	2	5.13	17	43.59	2	5.13	
	Alone	3	5.36	29	51.79	7	12.50	10	17.86	7	12.50	
Fruit juice and Soda	At home with family	30	21.43	10	7.14	23	16.43	30	21.43	47	33.57	
	At State dormitory	18	13.74	16	12.21	30	22.90	33	25.19	34	25.95	
	At Private dormitory	10	15.63	5	7.81	18	28.13	16	25.00	15	23.44	0.265 / 34.398
	At home with friends	6	15.38	2	5.13	7	17.95	18	46.15	6	15.38	
	Alone	12	21.43	4	7.14	13	23.21	13	23.21	14	25.00	

Table 5. University students' descriptive information on the Power Food Scale.

	n	Mean	SD	Min	Max
PFS total	430	2.95	0.74	1.00	5.00
Food available	430	2.59	0.88	1.00	5.00
Food present	430	3.09	0.89	1.00	5.00
Food tasted	430	3.28	0.84	1.00	5.00

Table 6. Comparison of university students' Power Food Scale scores according to gender and BMI

		Power Food Scale <2.5		Power Food Scale >2.5		p-value / $\chi 2$
		n	%	n	%	
Gender	Male	45	35.4	65	21.5	0.051 / 3.793
	Female	82	64.6	238	78.5	
BMI	< 18.5	18	13.8	29	9.7	0.287 / 2.497
	18.5 – 24.9	65	50.0	173	57.7	
	>25.0	47	36.2	98	32.6	

When examining PFS scores according to BMI classification in our study, it was observed that participants with normal BMI levels exhibited higher sensitivity to foods than others. Additionally, no statistically significant effect was observed between participants' BMI classification and PFS scores. In a study conducted by Burger et al. (2016), like our findings, no relationship was found between BMI and PFS scores (Burger et al., 2016). However, a study by Arslan et al. (2022) found that the median PFS score of obese students was significantly higher than that of normal-weight students (Arslan et al., 2023). Similarly, a study on adults by Karakaş & Saka (2021) found a significant positive correlation between BMI and PFS total scores (Karakaş & Saka, 2021). Hayzaran (2018) similarly found that university students who participated in the study were sensitive to delicious foods. It was determined that the mean of the power food scale was 3.18 ±0.68, the mean of food available, which is the sub-dimension of the scale, was 2.78 ±0.88, the mean of food present was 3.43 ±0.81, and the mean of food tasted was 3.33 ±0.79. Among the food available factor items, 40.7% (n=175) of the students disagreed with the item "I find myself thinking about food even when I am not physically hungry", while 31.2% (n=134) agreed. The item "My mind is always busy with food" received a disagree response from 44.9% (n=192). Among the food present factor items, 56.0% (n=241) agreed with the item "When I see or smell a food I like, I feel a strong urge to eat it." Among the food-tasting factor items, 49.5% (n=213) of students answered, "I agree" to the item "It is very important for me that the food I eat is as delicious as possible." Similarly, in the Hayzaran, one of the food availability factor items was "I find myself thinking about food even when I am not physically hungry" 35% agree with the article. Among the nutrient availability factor items, "When I see or smell a food I like, I feel a strong urge to eat some", 22.9% of the students strongly agreed, and 55.8% agreed with the article. Among the food taste factor items, "It is very important for me that

the food I eat is as delicious as possible", 26.4% of the students answered, "strongly agree", and 54.5% said, "I agree" (Hayzaran, 2018).

Conclusion

The study offers insights into students' dietary habits during this phase, which can serve as valuable information for initiatives to promote healthier diets and lifestyles among university students. In essence, the university setting offers students insights into the factors influencing their dietary behaviour and the nutritional outcomes they experience. These findings underscore the significance of considering taste preferences, cultural influences, and food accessibility when encouraging healthier dietary decisions among university students. Promoting healthier eating habits among students can be facilitated through diverse interventions within the university environment.

Compliance with Ethical Standards

Conflict of interest: The author(s) declares that they have no actual, potential, or perceived conflict of interest for this article.

Ethics committee approval: The study received approved from the Afyonkarahisar Health Sciences University Non-Interventional Clinical Research Ethics Committee during meeting number 2023/1 on January 6, 2023.

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