

# Hedonic Hunger Level of Health Science Students: Cross-Sectional Research

## Sağlık Bilimleri Öğrencilerinin Hedonik Açlık Düzeyi: Kesitsel Araştırma

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**ABSTRACT Objective:** The aim of this study was to determine the hedonic hunger level of health science students. **Material and Methods:** A face-to-face survey with voluntary students (n=374) was conducted to collect the data including their demographic profile, anthropometric characteristics, hedonic hunger level, and desire for foods. The Power of Food Scale (PFS) was used to determine the hedonic hunger level whereas the Visual Analogue Scale (VAS) was utilized to check the students' desire for the consumption of palatable foods. Chi-square test and Pearson correlation analysis were performed to analyze the data. **Results:** The female students felt more hedonic hunger than the male students. However, gender showed no significant difference with respect to the total PFS score (p>0.05). Pearson analysis indicated no correlation between the PFS scores and anthropometric measurements (p>0.05). Ice-cream was found to be the most desired food by students followed by fruits and nuts. Positive significant correlations between the PFS scores and the desire for the consumption of desserts, chocolate, cake, patisserie foods, ice-cream, fast food, fried potato, and snack were determined according to the VAS scores (p<0.05). **Conclusion:** Students felt hedonic hunger and desired mostly the consumption of calorie-dense foods such as desserts, chocolate, cake, patisserie foods, ice-cream, and fried potato. The consumption of calorie-dense foods can lead to the weight gain which is associated with obesity. Therefore, the awareness of the students on the hedonic hunger should be increased to prevent the risk of obesity in their later life.

**Keywords:** Hedonic hunger; obesity; appetite; Power of Food Scale; Visual Analogue Scale

**ÖZET Amaç:** Bu çalışmanın amacı, sağlık bilimleri öğrencilerinin hedonik açlık düzeyini belirlemektir. **Gereç ve Yöntemler:** Demografik ve antropometrik verileri, hedonik açlık düzeylerini ve yemek isteklerini içeren verileri toplamak için gönüllü öğrencilerle (n=374) yüz yüze anket yapılmıştır. Hedonik açlık düzeyini belirlemek için Besin Gücü Ölçeği (BGÖ) ve öğrencilerin lezzetli yiyecekleri tüketme isteklerini belirlemek için Görsel Analog Ölçeği (GAÖ) kullanılmıştır. Verilerin analizinde ki-kare testi ve Pearson korelasyon analizi uygulanmıştır. **Bulgular:** Kız öğrencilerin, erkek öğrencilere göre daha fazla hedonik açlık hissettiği belirlenmiştir. Ancak cinsiyete göre toplam BGÖ skoru açısından anlamlı bir fark bulunmamıştır (p>0,05). Pearson analizi, BGÖ skorları ile antropometrik ölçümler arasında bir korelasyon olmadığını göstermiştir (p>0,05). Öğrenciler tarafından en çok arzu edilen yiyecek olarak dondurma bulunmuş, ardından meyve ve kuru yemişler gelmiştir. BGÖ skorları ile tatlı, çikolata, kek, pastane ürünleri, dondurma, fast food, patates kızartması ve atıştırmalıkların tüketilme isteği arasında GAÖ skorlarına göre pozitif ve anlamlı korelasyon tespit edilmiştir (p<0,05). **Sonuç:** Öğrenciler hedonik açlık hissetmekte ve en çok tatlı, çikolata, kek, pastane ürünleri, dondurma ve patates kızartması gibi enerjisi yoğun gıdaların tüketilmesini arzulamaktadır. Enerjisi yoğun gıdaların tüketimi obeziteyle ilişkili ağırlık kazanımına yol açabilir. Bu nedenle ileriki yaşamlarında obezite riskini önlemek için öğrencilerin hedonik açlık konusundaki farkındalıkları artırılmalıdır.

**Anahtar Kelimeler:** Hedonik açlık; obezite; iştah; Besin Gücü Ölçeği; Görsel Analog Ölçeği

Both homeostatic and hedonic pathways regulate the food intake. The homeostatic pathway controls the energy intake and increases the motivation of eating when human needs energy. However, the hedonic pathway controls sensory pleasure in eating and

increases the desire for the consumption of palatable foods.<sup>1</sup> Hedonic hunger can be defined as an appetite drive to eat palatable foods in the absence of physiological hunger.<sup>2</sup> The Power of Food Scale (PFS) was developed to measure the hedonic hunger level.<sup>3</sup> Its

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origin consists of 21 item scale to present the desire for food available in the environment but not physically present, food present but not tasted, and food when first tasted but not consumed.<sup>4</sup> Individual differences in thoughts, feelings, and motivations related to appetite in the environment can be measured with the PFS. It helps explaining variations in the measurement of abnormal eating behaviors.<sup>5</sup> The PFS scores were found to be positively associated with binge eating behavior in healthy and eating-disorders individuals.<sup>6</sup>

Obesity, a multifactorial metabolic disorder, is one of the important public health problems.<sup>7</sup> The prevalence of obesity has increased in Turkey and worldwide.<sup>8,9</sup> Obesity contributes to the development of diet-related disorders such as, diabetes, cardiovascular diseases, and hypertension.<sup>10</sup> Foods with high sugars and/or fats are mostly consumed in the case of hedonic hunger.<sup>11</sup> Eating contributes to overeating and weight gain in the absence of energy need.<sup>12</sup> Overeating and weight gain are associated with obesity. Body mass index (BMI) is used to assess obesity.<sup>13</sup> Some studies have revealed that obese people feel higher hedonic hunger than non-obese people.<sup>14,15</sup> Cheung et al. reported that obese people presented higher total PFS scores than non-obese people.<sup>16</sup> The relationship between the BMI and the hedonic hunger level have been investigated using the PFS. However, conflicting results were obtained. Both no significant correlation and a weak correlation between the BMI values and the PFS scores were reported.<sup>17</sup>

Visual Analogue Scale (VAS) has been used in clinical studies to evaluate subjective sensations.<sup>18</sup> It is widely used in appetite research to record subjective sensations such as hunger, fullness, and nausea.<sup>19</sup> The subjective feelings of motivation to eat can be measured by using the VAS.

University years are a critical time for the development of good eating habits as well as the development of obesity. Most studies on the hedonic hunger have been conducted with adults. To our knowledge, there are limited studies on university students.<sup>20,21</sup> Therefore, we aimed to assess the hedonic hunger status of health science students. We also determined the relationship between the hedonic

hunger and some anthropometric measurements and the students' desire for the consumption of palatable foods.

## MATERIAL AND METHODS

### STUDY DESIGN

A cross-sectional study was conducted with the students of the Gümüşhane University Faculty of Health Sciences to assess their hedonic hunger level. The randomly selected undergraduate students participated in the study. The minimum sample size was calculated as 331 students and 374 students completed the survey.<sup>22</sup>

$$n = (N \cdot t^2 \cdot p \cdot q) / [(d^2 \cdot (N-1) + (t^2 \cdot p \cdot q))] \quad [1]$$

Where n is the sample size, N is the main population (2,391), t is the t value (1.96 at a 95% confidence level), p is the possibility of actualization (0.5), q is the possibility of non-actualization (0.5), and d is the deviation proportion between the main and the sample solution (0.05).

### DATA COLLECTION

A face-to-face survey was conducted with the students in February and March 2020. There were 4 parts in the survey questionnaire:

- a) Demographic section: Information (age, gender, department, class, income level, and accommodation etc.) on demographic profile was collected.
- b) Anthropometric data: To determine the BMI and waist-to-height ratio (WHR), the weight, height, and waist circumference of the participants were measured.
- c) PFS: The PFS was used to evaluate the hedonic hunger.
- d) VAS: To determine the desire of the participants for the consumption of palatable foods, the VAS was used.

This study was carried out in accordance with the Declaration of Helsinki. To conduct research with human subject, the approval was obtained (Gümüşhane University Scientific Research and Publication Ethics Committee, Date: 18/12/2019, Number: 2019/11). The written approval of the

participants was taken for the participation of the survey.

### ANTHROPOMETRIC MEASUREMENTS

Weight (kg) was measured with a digital scale and both height (cm) and waist circumference (cm) were measured with a tape measure.

The BMI and WHR were calculated to the following formulas:

$$\text{BMI} = \text{weight (kg)} / [\text{height (m)}]^2 \quad [1]$$

$$\text{WHR} = \text{waist (cm)} / \text{height (cm)} \quad [2]$$

### POWER OF FOOD SCALE

The PFS was developed by Lowe et al. in 2009. The Turkish version was adapted by Akçil Ok and Hayzaran.<sup>3,21</sup> The Turkish version of the PFS including 15 items was used in the study.<sup>21</sup> The permission of using Turkish version of the PFS was obtained from the author via email. The Cronbach's internal consistency coefficient was reported to be 0.85 for the Turkish version of the PFS. It is composed of three factors, showing food availability, food presence, and food taste, respectively. The total score of the PFS was calculated as the mean value (MV) of 15 items. The total score of the PFS was higher than 2.5, indicating that the students had hedonic hunger. The score of each factor was calculated as the MV of its items. The PFS questionnaire was answered on a 5-point Likert type scale (1: I don't agree at all, 5: I strongly agree).

### VISUAL ANALOGUE SCALE

VAS has been used in clinical studies since 1920's.<sup>23</sup> It has become popular in appetite research.<sup>24</sup> The VAS was used to check the participants' desire for foods. The subjects were asked -How strong is your desire to eat? Numerical rating scale (0-10) was utilized to assess their desire. The mean score of the participants was calculated for each food. If the mean score was higher than 5, indicating that the participants' desire for food was high. Foods were selected as desserts (with milk), dessert (with sorbet), chocolate, cake (with cream), patisserie products, fast food, fried potato, ice-cream, nuts, pickle, snacks (packaged), tea-coffee, carbonated drink, and fruit.

### STATISTICAL ANALYSIS

The frequencies and mean values (MVs) (with standard deviation) were calculated. Differences among genders was tested using the chi-square test. A Pearson correlation analysis was performed to investigate the correlations between anthropometric measurements and hedonic hunger level. The data were processed with IBM SPSS Statistics 17.00 (IBM Coop., NY, USA).

## RESULTS

### DEMOGRAPHIC PROFILE

The demographic profile of the students is presented in [Table 1](#). A total of 374 students (Female: 172, Male: 202) participated in the study. The age of the students varied from 18 to 26 years (MV: 21.4 SD: 2.0). Most of the students (>70%) had monthly income level lower than 1,000 TL. Most of the students (>50%) lived in the dormitory.

### ANTHROPOMETRIC PROFILE

The anthropometric measurements of the students are presented in [Table 2](#). The WHR values were classified into 4 categories as risky (<0.4), normal (0.4-<0.5), high risky (0.5-<0.6), and treatment needed (>0.6).<sup>25</sup> Most of the students had normal WHR values (58%). However, approximately one-third of the students were in the high risky category. The male students showed lower percentage in normal category and higher percentage in high risky category compared to the female students.

The BMI was classified into 4 categories as the underweight, normal, overweight, and obese.<sup>25</sup> Most of the students had normal BMI values (67.6%). However, approximately one-fifth of the students were in the overweight category. The male students had lower percentage in the normal category and higher percentage in the overweight category than the female students.

Genders showed a significant difference with respect to both WHR ( $\chi^2$ : 17.62,  $p=0.001$ ) and BMI values ( $\chi^2$ : 19.78;  $p=0.001$ ).

### POWER OF FOOD SCALE

The total PFS scores and the scores of each PFS factor are presented in [Table 3](#). The total PFS score was

	n	f
<b>Gender</b>		
Female	172	46.0
Male	202	54.0
Total	374	100.0
<b>Department</b>		
Nutrition and dietetics	42	11.2
OHS	52	13.9
Social service	73	19.5
Health management	72	19.3
Nursing	71	19.0
EDM	64	17.1
<b>Class</b>		
1 <sup>st</sup>	73	19.5
2 <sup>nd</sup>	69	18.4
3 <sup>rd</sup>	112	30.0
4 <sup>th</sup>	120	32.1
<b>Marital status</b>		
Married	2	0.5
Single	372	99.5
<b>Monthly income level (TL)</b>		
0-500	127	34.0
501-1,000	152	40.6
1,000-1,500	54	14.4
1,500+	41	11.0
<b>Accommodation</b>		
Public dormitory	140	37.5
Private dormitory	83	22.2
House-alone	5	1.3
House-friends	125	33.4
With family	14	3.7
Other (public guesthouses)	7	1.9

Values were expressed as column percentages;

OHS: Occupational and health safety;

EDM: Emergency and disaster management.

used to assess the hedonic hunger status of the students. The female students presented higher total PFS scores than the male students. However, no significant difference among genders was found ( $p>0.05$ ). Each PFS factor was used to assess responses to food independent of attempts. The female students also showed higher PFS factor scores compared to the male students. A significant difference among genders was found for only PFS factor 3 (food tasted,  $c^2$ : 31.12,  $p=0.035$ ).

The students from the department of occupational and health safety had the highest total PFS scores followed by the students from the department of emergency and disaster management, social service, nutrition and dietetics, nursing, and health management. Although there was a small difference in the PFS scores with respect to the department, no significant difference was determined ( $p>0.05$ ).

The students from 1<sup>st</sup> class generally had the highest PFS scores whereas the students from 4<sup>th</sup> class generally had the lowest PFS scores. However, no significant difference was determined ( $p>0.05$ ).

The students who had monthly income level more than 1,500 TL presented the highest total PFS scores whereas the students showed the lowest total PFS scores at the monthly income level of 500-1,000 TL. However, no significant difference was determined ( $p>0.05$ ). Only PFS factor 1 presented a significant difference with respect to the monthly income level (food available,  $c^2$ : 97.58,  $p=0.013$ ). The PFS factor 1 increased with an increase in the income level, ranging from 500 to 1,500 TL.

	<b>WHR (cm/cm)</b>								<b>BMI (kg/m<sup>2</sup>)</b>							
	<0.40		0.40-0.49		0.50-0.59		>0.60		<18.5		18.5-24.99		25-29.99		>30	
	n	f	n	f	n	f	n	f	n	f	n	f	n	f	n	f
Female	19	11.1	113	65.7	37	21.5	3	1.7	27	15.7	122	71.0	20	11.6	3	1.7
Male	11	5.4	104	51.5	81	40.1	6	3.0	12	5.9	131	64.8	49	24.3	10	5.0
Total	30	8.0	217	58.0	118	31.6	9	2.4	39	10.4	253	67.7	69	18.4	13	3.5
	<b><math>\chi^2</math>: 17.620</b>				<b>p=0.000</b>				<b><math>\chi^2</math>: 19.768</b>				<b>p=0.000</b>			

Values were expressed as raw percentages; Bold values presented significant differences ( $p<0.05$ ); WHR: Waist-to-height ratio; BMI: Body mass index.

TABLE 3: The scores of the PFS.				
	Total score	Factor 1 score (Food available)	Factor 2 score (Food present)	Factor 3 score (Food tasted)
Gender	3.20±0.64	2.84±0.76	3.36±0.78	3.51±0.74
Female	2.98±0.62	2.62±0.73	3.14±0.78	3.29±0.71
Male	3.08±0.64	2.72±0.75	3.24±0.79	3.39±0.73
Total	$\chi^2$ : 53.74 p=0.324	$\chi^2$ : 26.86 p=0.231	$\chi^2$ : 15.64 p=0.500	$\chi^2$ : 31.12 p=0.035
Department nutrition and dietetics	3.01±0.48	2.58±0.65	3.08±0.63	3.48±0.61
OHS	3.15±0.78	2.85±0.89	3.28±0.88	3.42±0.81
Social service	3.07±0.62	2.67±0.68	3.32±0.82	3.35±0.73
Health management	2.94±0.59	2.62±0.72	3.02±0.78	3.25±0.68
Nursing	2.98±0.62	2.98±0.62	2.98±0.62	2.98±0.62
EDM	3.10±0.62	2.78±0.76	3.24±0.69	3.39±0.75
	$\chi^2$ : 231.50 p=0.947	$\chi^2$ : 97.52 p=0.906	$\chi^2$ : 84.61 p=0.336	$\chi^2$ : 97.57 p=0.576
Class				
1st	3.14±0.65	2.79±0.71	3.32±0.87	3.41±0.75
2 <sup>nd</sup>	3.13±0.66	2.84±0.79	3.25±0.84	3.36±0.72
3 <sup>rd</sup>	3.09±0.70	2.74±0.79	3.23±0.78	3.38±0.79
4 <sup>th</sup>	3.02±0.54	2.58±0.68	3.19±0.71	3.41±0.67
	$\chi^2$ : 149.928 p=0.246	$\chi^2$ : 66.85 p=0.360	$\chi^2$ : 31.92 p=0.970	$\chi^2$ : 60.16 p=0.311
Monthly income level (TL)				
0-500	3.15±0.59	2.77±0.70	3.33±0.78	3.48±0.67
501-1,000	2.98±0.62	2.60±0.73	3.17±0.75	3.29±0.72
1,000-1,500	3.12±0.70	2.78±0.79	3.18±0.89	3.50±0.82
+1,500	3.18±0.70	2.93±0.83	3.31±0.75	3.38±0.81
	$\chi^2$ : 144.96 p=0.754	$\chi^2$ : 97.58 p=0.013	$\chi^2$ : 49.73 p=0.402	$\chi^2$ : 69.11 p=0.188
Accommodation				
Public dormitory	3.07±0.57	2.72±0.65	3.17±0.78	3.39±0.65
Private dormitory	3.15±0.78	2.76±0.83	3.37±0.82	3.43±0.81
House-alone	2.71±0.65	2.40±0.76	2.85±0.76	2.96±0.74
House-friends	3.07±0.63	2.69±0.78	3.24±0.78	3.41±0.73
With family	2.69±0.69	3.25±0.67	3.19±0.84	3.00±0.63
Other	3.40±0.90	3.21±1.03	3.50±0.69	3.54±1.06
	$\chi^2$ : 321.42 p=0.094	$\chi^2$ : 121.30 p=0.326	$\chi^2$ : 74.36 p=0.581	$\chi^2$ : 136.92 p=0.077

Bold values presented significant differences (p<0.05); PFS: Power of Food Scale; OHS: Occupational and health safety; EDM: Emergency and disaster management.

The students with family had the lowest PFS scores compared with the students with friends and students in the dormitory. However, there was no significant difference in the PFS scores according to the accommodation type (p>0.05).

Pearson correlation coefficients are presented in Table 4. No correlation was found between the BMI values and both PFS scores and factor scores (p>0.05). There was also no correlation between the WHR and both PFS scores and factor scores (p>0.05).

**TABLE 4:** Pearson correlation coefficients and p values for PFS and anthropometric measurements.

	Total score		Factor 1 score		Factor 2 score		Factor 3 score	
	r value	p value	r value	p value	r value	p value	r value	p value
BMI	-0.021	0.692	0.025	0.627	-0.036	0.483	-0.053	0.303
WHR	-0.067	0.199	-0.018	0.724	-0.090	0.081	-0.074	0.156

PFS: Power of Food Scale; BMI: Body mass index; WHR: Waist-to-height ratio.

## VISUAL ANALOGUE SCALE

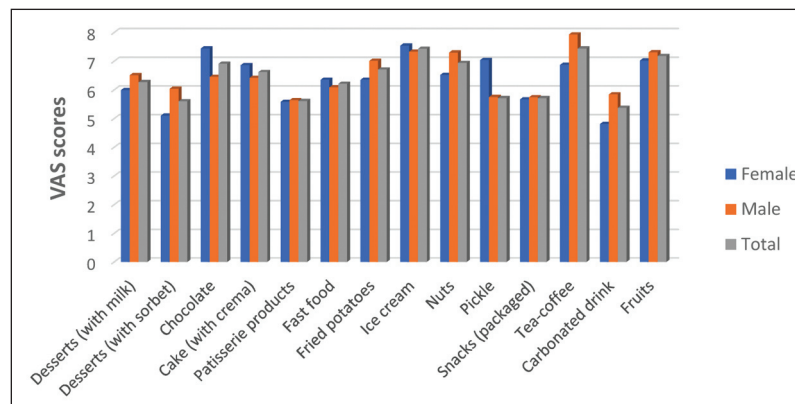
The mean scores of the VAS are presented in Figure 1. All scores were higher than 5, indicating that the students felt sensory pleasure when they consumed these foods. The female students presented higher scores for chocolate, cake (with cream), fast food and pickle while the male students had higher scores for desserts (with milk), desserts (with sorbet), fried potato, nuts, tea-coffee, and carbonated drinks.

A Pearson correlation analysis revealed that the students' desire for the consumption of desserts (with milk,  $r=0.152$ ,  $p=0.003$ ), desserts (with sorbet,  $r=0.252$ ,  $p=0.000$ ), chocolate ( $r=0.194$ ,  $p=0.000$ ), cake (with cream,  $r=0.272$ ,  $p=0.000$ ), patisserie products ( $r=0.259$ ,  $p=0.000$ ), fast food ( $r=0.397$ ,  $p=0.000$ ), fried potato ( $r=0.260$ ,  $p=0.000$ ), ice cream ( $r=0.089$ ,  $p=0.085$ ), pickle ( $r=0.119$ ,  $p=0.022$ ), snack ( $r=0.243$ ,  $p=0.000$ ) and carbonated drink ( $r=0.101$ ,  $p=0.052$ ) showed positive significant correlations with respect to the PFS scores. However, there were no significant correlations between the PFS scores and the students' desire for the consumption of nuts ( $r=0.061$ ,  $p=0.243$ ), tea-coffee ( $r=0.011$ ,  $p=0.832$ ) and fruit ( $r=-0.008$ ,  $p=0.883$ ).

## DISCUSSION

Anthropometric measurements revealed that the female students presented higher percentage in the normal category compared to the male students. These findings could be related to the fact that the females show more attention to their appearance than the males. Obesity can be evaluated by the BMI while the WHR can be used to assess abdominal obesity.<sup>13</sup> According to the anthropometric measurements, it can be concluded that the male students may have a higher risk for obesity compared to the female students.

The female students had higher PFS scores than the male students. Similar findings were found in the literature. Aliasghari et al., Schüz et al., and Yoshikawa et al. reported that the PFS scores were higher in women than men.<sup>1,20,26</sup> This finding may be related to the fact that women may be more sensitive to hedonic foods than men. Legget et al. observed sex-based differences in neuronal responses to hedonic food in the fasted state.<sup>27</sup> Women gave greater responses compared to men. These findings may be related to hormonal differences between men and women. Hedonic eating is considered to be associ-



**FIGURE 1:** The mean scores of the VAS. VAS: Visual Analogue Scale.

ated with the estrogen signaling at beta estrogen receptors in the brain.<sup>27</sup>

The department, class, accommodation, and income level were found to have no significant impact on the PFS scores. However, the students who lived alone or with their family had lower scores compared to the students lived with friends. These findings may indicate that the students feel more hedonic hunger when they are with friends. For monthly income level, the PFS factor 1 score appeared to increase when the income level was higher than 500 TL. It can be concluded that higher income level may increase the desire for food available but not physically present. To our knowledge, no comparable study was found in the literature.

Previous studies revealed that the relationship between the BMI and PFS was controversial. Majority of the studies reported no significant correlation between the BMI values and PFS scores whereas some studies found a significant correlation.<sup>28-30</sup> Aliasghari et al. observed a strong correlation between BMI values and PFS total scores.<sup>1</sup> Akçil Ok and Hayzaran reported a positive significant correlation between the BMI values and PFS scores.<sup>21</sup> Ribeiro et al. found a weak positive correlation between the BMI and PFS.<sup>17</sup> The differences in the studied population may explain different findings in the studies. In our study, we studied with university students and the most participants had normal BMI values. Positive correlations were reported for obese people.<sup>14,15</sup>

The health science students desired the consumption of the foods with higher sugar levels. Their motivation to eat palatable foods seemed at a high level according to the VAS scores. Moreover, the PFS scores were positively correlated with the VAS scores of the palatable foods such as desserts, chocolate, cake, ice-cream, and fried potato etc. Our findings were comparable with the literature. Şarahman and Akçil Ok and Hayzaran reported the positive correlations between the PFS and the desire of the consumption of palatable foods such as chocolate, patisserie products, ice-cream, and fried potato.<sup>31,32</sup> The consumption of calorie-dense foods is known to increase the risk of obesity. Therefore, the awareness of the students on hedonic hunger and negative consequences of consumption of calorie-

dense foods should be increased to improve their nutritional habits.

This study only included health science students. Therefore, the results may not be generalized for all university students.

## CONCLUSION

This study revealed that health science students presented hedonic hunger. The female students had higher PFS scores than the male students, indicating that they might be more addicted to hedonic foods. The students desired mostly to eat palatable foods with high sugar levels. Significant correlations were found between the PFS scores and the desire of consumption of foods with high sugar levels. The consumption of these foods in the absence of physiological hunger can increase the risk of obesity due to weigh gain in their later life. For this reason, the determination of the factors associated with hedonic hunger is important to improve individual nutrition habits. Moreover, it may contribute to the treatment and prevention of overweight and obesity. Therefore, more studies on hedonic hunger and factors associated with hedonic hunger are needed.

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*During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.*

### Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

### Authorship Contributions

**Idea/Concept:** Tuğçe Saçtı, Gamze Koç, Şule Gödek, Melike Gözün, Huri İlyasoğlu; **Design:** Huri İlyasoğlu; **Control/Supervision:** Huri İlyasoğlu; **Data Collection and/or Processing:** Tuğçe Saçtı, Gamze Koç, Şule Gödek, Melike Gözün; **Analysis and/or Interpretation:** Huri İlyasoğlu; **Literature Review:** Tuğçe Saçtı, Gamze Koç, Şule Gödek, Melike Gözün; **Writing the Article:** Huri İlyasoğlu; **Critical Review:** Huri İlyasoğlu; **References and Fundings:** Huri İlyasoğlu.

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