

Evaluation of the Effect of Hedonic Hunger on Purchasing Behavior in Adult Individuals

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ABSTRACT

Objective: The aim of this study is to evaluate the effect of individuals' hedonic hunger status on their purchasing behaviors.

Materials and Methods: This cross-sectional study was conducted with 218 individuals, 147 females and 71 males, aged 18-65 years. Questions about demographic characteristics and eating habits, Power of the Food Scale (PFS), Hedonic and Utilitarian Purchasing Behavior Scale were applied via an online questionnaire. The study protocol was approved by the Ethical Committee of the Acıbadem Mehmet Aydınlar University with the number of 2021-17/10.

Results: PFS total score was determined as 3.03 ± 0.82 in females and 2.51 ± 0.90 in males ($p < 0.05$). According to PFS, the frequency of hedonic hunger in females (70.7%) was higher than in males (49.3%) ($p < 0.05$). Hedonic Consumption Behavior Scale (HCBS) total and subscale scores were higher in females than males ($p < 0.05$). A positive correlation was found between PFS and HCBS scores in females and in males between PFS and HCBS and between PFS and Utilitarian Consumption Behaviors Scale scores ($p < 0.05$).

Conclusion: Hedonic hunger and hedonic consumption behavior frequency were found to be higher and related to each other in females. It is believed that practices aimed at raising awareness in the consumption of food and non-food products and developing utilitarian purchasing behavior will contribute to weight control and sustainability.

Keywords: Nutrition, eating behavior, purchasing

Yetişkin Bireylerde Hedonik Açlığın Satın Alma Davranışı Üzerindeki Etkisinin Değerlendirilmesi

ÖZET

Amaç: Bu araştırmanın amacı, bireylerin hedonik beslenme durumlarının satın alma davranışları üzerindeki etkisini incelemektir.

Gereç ve Yöntem: Kesitsel tipteki bu araştırma, 18-65 yaş arası 147 kadın ve 71 erkek olmak üzere 218 birey ile yürütülmüştür. Bireylerin demografik özellikleri, beslenme alışkanlıkları ile ilgili sorular, Besin Gücü Ölçeği (BGÖ), Hedonik ve Faydacı Satın Alma Davranışı Ölçeği çevrimiçi anket yolu ile uygulanmıştır. Araştırma protokolü, Acıbadem Mehmet Aydınlar Üniversitesi Tıbbi Araştırma Etik Kurulu tarafından (sayı no: 2021-17/10) onaylanmıştır.

Bulgular: Bireylerin BGÖ toplam puanı kadınlarda $3,03 \pm 0,82$, erkeklerde $2,51 \pm 0,90$ olarak belirlenmiştir ($p < 0,05$). BGÖ'e göre kadınlarda (%70,7) hedonik açlık sıklığı, erkeklerden (%49,3) yüksektir ($p < 0,05$). Kadınların Hedonik Tüketim Davranışları Ölçeği (HTDÖ) toplam ve alt boyut puanları, erkeklerden yüksektir ($p < 0,05$). Kadınlarda BGÖ ile HTDÖ ve erkeklerde BGÖ ile HTDÖ ve BGÖ ile Faydacı Tüketim Davranışları Ölçeği puanları arasında pozitif korelasyon saptanmıştır ($p < 0,05$).

Sonuç: Kadınlarda hedonik açlık durumunun ve hedonik satın alma davranışlarının daha fazla ve birbiri ile ilişkili olduğu belirlenmiştir. Gıda ve gıda dışı ürünlerin tüketiminde farkındalığı arttırmaya ve faydacı satın alma davranışının geliştirilmesine yönelik uygulamaların, ağırlık kontrolüne ve sürdürülebilirliğe katkı sağlayacağına inanılmaktadır.

Anahtar Kelimeler: Beslenme, beslenme davranışı, satın alma

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Hunger is a condition that directs the individual to nutritional behavior and causes food consumption. Hunger and food intake are regulated by two different systems: homeostatic hunger and hedonic hunger (1). Homeostatic hunger is the consumption of food to meet the body's energy needs in case of negative energy balance. There is no attachment to the taste of the food, on the contrary, the need to eat is felt regardless of the taste. On the other hand, hedonic hunger is the appetite and consumption of food with the desire to eat and get pleasure from food, which does not develop within the body's needs (2).

In the modern world, the consumption of easily accessible, low-cost, delicious and high-energy foods is quite high. People tend to consume food in order to feel happy, to get away from the stress they experience while eating, and most importantly to get pleasure (3). This eating pattern, which is defined as hedonic eating, has been manifested as "stress-induced eating", "emotional eating", "food addiction" and "eating to feel good". Hedonic eating is the reason why an individual consumes a dessert after a satisfying meal (3, 4). Frequent consumption of such "delicious" and high-energy foods increases the risk of obesity, obesity-related comorbidities and non-communicable diseases (3).

Food consumption is not only related to taste but also to food availability. Technological developments, advertisements and marketing strategies affect consumption. Purchasing behaviors have gone beyond meeting the basic needs that individuals need to survive. Consumers' purchasing behavior is affected by internal and external factors such as psychological effects, socio-cultural variables, demographic differences and marketing techniques (5). Consumers make choices when purchasing products by being influenced by sensory features, that is, hedonism, and operational, that is, non-sensory, functional diversity features (6).

Decisions of consumers to purchase food and service or product are similar. Increasing diversity in food and non-food products, stimuli affecting consumption behaviors are under the influence of both hedonistic and utilitarian motives. The aim of this study is to evaluate the effect of hedonic hunger on the consumption behavior of adults.

MATERIAL AND METHODS

This cross-sectional study was conducted with 218 adult individuals (147 female, 71 male) aged 19-65 who agreed to participate in the study between September and October 2021. Consent form was obtained from all individuals to participate in the study. Study data were collected through an electronic questionnaire. Ethical approval for the study was obtained from Ethical Committee of the Acibadem Mehmet Aydınlar University with the number of 2021-17/10. The study was performed by obtaining the informed consent of the participants.

The data collection form consists of three parts: demographic characteristics, Power of the Food Scale (PFS) and Hedonic and Utilitarian Consumption Behavior Scale. In the first part, there are questions about demographic characteristics (including age, sex, marital status), health status, anthropometric information (height, weight) and smoking habits. The height and weight of individuals participating in the study were collected from their own statements. The body mass index (BMI) was calculated by dividing the body weight (kg) by the square of body height (m²) and BMI classification was assessed according to WHO (7).

PFS was applied to evaluate hedonic hunger status. PFS, which was developed by Cappelleri et al. (2009) with the aim of evaluating the effect of living in an environment with a large number of delicious foods on the psychological and hedonic hunger states of individuals, originally consisted of 21 items (8). PFS was adapted into Turkish by Akçil Ok and Hayzaran (2020) and was reduced to 15 items (9). The scale is in a 5-point Likert type, ranging from 1 (strongly disagree) to 5 (strongly agree) and consists of the subscales of food availability, food presence and food taste.

Hedonic and Utilitarian Consumption Behavior Scale was applied to evaluate the purchasing behaviors of individuals. The scale was developed by Coşkun and Marangoz (2019) to examine hedonic and utilitarian consumption behaviors, consists of 42 questions and is in the 5-point Likert type, which is in the range of "never" and "always" (10). Hedonic Consumption Behavior Scale (HCBS) consists of subscales of hedonic effect, hedonic adaptation, passivity state, impulsive tendency, identity projection,

while Utilitarian Consumption Behavior Scale (UCBS) has goal orientation and control orientation subscales.

Statistical Analysis

Statistical analyses were performed using by SPSS (IBM Statistics 24) package software. To interpret the findings, frequency tables and descriptive statistics; to evaluate the relationships of two qualitative variables Pearson- χ^2 matrix tables were used. Mann Whitney U test (Z-table value) to compare measurement values and Spearman correlation to evaluate correlation with two groups were utilized that do not display normal distribution. Correlation coefficients (r) of 0.00–0.24 were evaluated as weak relationships, 0.25–0.49 as moderate, 0.50–0.74 as strong, and 0.75–1.00 as very strong. A p -value of less than 0.05 was considered statistically significant.

RESULTS

The mean age of females ($n:147$, 67.4%) participating in the study was 35.1 ± 8.6 years, and 39.6 ± 7.7 years for males ($n:71$, 32.6%) ($p < 0.001$). The frequency of marriage in males (56.3%) was higher than of females (25.2%) ($p < 0.001$). While 58.2% of females were students, 70.4% of males were working ($p < 0.001$). Mostly, females (54.4%) stated that their income was equal to their expenses, while males (49.3%) stated that their income was more than their expenses ($p = 0.013$) (Table 1).

The mean BMI for females was 22.9 ± 4.5 kg/m² while the mean was 25.7 ± 3.2 kg/m² for males ($p < 0.001$). According to BMI classification, most of females (63.3%) had normal weight, while males (42.3%) were overweight ($p < 0.001$). As smoking status was determined, 72.8% of females reported not smoking, 60.6% of males reported smoking ($p < 0.001$). 59.9% of females and 47.9% of males had two main meals ($p = 0.039$) (Table 2).

While the mean of all subscales and total hedonic consumption scores of the females' HCBS was found to be higher than that of males' ($p < 0.05$), there was no sex difference between the mean of subscales and total score of UCBS ($p > 0.05$). The mean of PFS subscales and total score of females were higher than males' ($p < 0.05$). 70.7% of females and 49.3% of males were found to have hedonic hunger (mean PFS score > 2.5) ($p < 0.05$) (Table 3).

The mean of HCBS total and all subscales' scores, UCBS total and control orientation subscale score of individuals who had hedonic hunger ($n:139$) were higher than individuals without hedonic hunger ($n:79$) ($p < 0.05$) (Table 4).

In females, there was a moderate positive correlation between age and BMI ($r = 0.360$; $p < 0.001$). There was a weak negative correlation between PFS and age, and a weak positive correlation between PFS and BMI (respectively, $r = -0.203$ and $r = 0.226$; $p < 0.05$). Also, HCBS had a weak negative correlation with age and a moderate positive correlation with PFS (respectively, $r = -0.218$ and $r = 0.390$; $p < 0.05$). In males, there was a moderate negative correlation HCBS and age ($r = -0.303$, $p < 0.05$). PFS had a strong positive correlation with HCBS and a moderate positive correlation with UCBS (respectively, $r = 0.552$ and $r = 0.401$; $p < 0.05$) (Table 5).

DISCUSSION

Exposure to delicious foods and the formation of strong urges to consume these foods are defined as "hedonic hunger". Most individuals perform hedonic food intake even when they are not physiologically hungry. Also, individual differences may affect hedonic feeding behavior (11). Individuals can be influenced by their emotions while shopping. Products that affect and encourage consumption and give pleasure lead to hedonic purchasing. However, consumers do not always act with their emotions, some act rationally and make utilitarian consumption. While this type of consumer buys the products they have planned before, those who exhibit hedonic consumption behavior make sudden decisions to purchase. There are many factors among the behaviors that lead individuals to hedonic and utilitarian consumption (12).

In this study, which aimed to evaluate the relationship between hedonic hunger and consumption behaviors in adult individuals, the frequency of hedonic hunger was found to be higher in females (70.7%) than in males (49.3%) (Table 3). In another study, PFS total score and food availability and food presence subscale scores were found to be higher in females compared to males. This suggests that females are more prone to hedonic hunger than males (13). In another study, the difference between the sex was reported similarly (14).

Table 1. Evaluation of demographic characteristics

	Female (n=147)		Male (n=71)			
	$\bar{x}\pm SS$	Median (min-max)	$\bar{x}\pm SS$	Median (min-max)	Z**	p
Age (year)	28.3±10.5	23.0 (18.0-55.0)	38.1±12.3	38.0 (21.0-65.0)	-5.923	<0.001*
	n	%	n	%	χ^{2***}	p
Education Level						
Primary school and below	4	2.7	1	1.4	17.602	0.001*
High school	9	6.1	13	18.3		
Associate's/Bachelor's	66	44.9	14	19.7		
Postgraduate	68	46.3	43	60.6		
Marital Status						
Married	37	25.2	40	56.3	20.358	<0.001*
Single	110	74.8	31	43.7		
Occupation						
Student	85	58.2	11	15.5	51.512	<0.001*
Working	36	24.7	50	70.4		
Unemployed	21	14.4	4	5.6		
Retired	4	2.7	6	8.5		
Income Status						
Income more than expense	44	29.9	35	49.3	8.623	0.013*
Income equals expenses	80	54.4	25	35.2		
Income less than expenses	23	15.6	11	15.5		

*p<0.05 ** Mann-Whitney U" test ***Pearson- χ^2

Table 2: Evaluation of anthropometric measurements, lifestyle and nutritional habits

BMI (kg/m ²)	Female (n=147)		Male (n=71)		Z**	p
	$\bar{x}\pm SS$	Median (min-max)	$\bar{x}\pm SS$	Median (min-max)		
	22.9±4.5	21.9 (16.8-42.6)	25.7±3.2	25.1 (17.4-32.9)		
	n	%	n	%	χ^2 ***	p
BMI Classification						
Underweight	18	12.2	2	2.8	27.506	<0.001*
Normal weight	93	63.3	29	40.8		
Overweight	19	12.9	30	42.3		
Obese	17	11.6	10	14.1		
Smoking						
Yes	40	27.2	43	60.6	22.588	<0.001*
No	107	72.8	28	39.4		
Number of main meals						
1	2	1.3	5	7.0	6.505	0.039*
2	88	59.9	34	47.9		
3	57	38.8	32	45.1		
Number of snacks						
Non-consuming	23	15.6	21	29.6	30.525	<0.001*
1	41	27.9	38	53.5		
2	66	44.9	10	14.1		
3	17	11.6	2	2.8		

*p<0.05 ** Mann-Whitney U'' test ***Pearson- χ^2

BMI: Body mass index

Table 3: Evaluation of PFS and Hedonic and Utilitarian Consumption Behavior Scale scores

	Female (n=147)		Male (n=71)			
	$\bar{x}\pm SS$	Median (min-max)	$\bar{x}\pm SS$	Median (min-max)	Z**	p
Hedonic and Utilitarian Consumption Behavior Scale						
Hedonic effect	25.0±7.5	26.0 (9.0-35.0)	18.3±7.1	17.0 (7.0-35.0)	-5.755	<0.001
Hedonic adaptation	17.4±8.6	14.0 (7.0-35.0)	12.8±5.7	10.0 (7.0-35.0)	-3.735	<0.001*
Passivity scale	15.2±6.9	14.0 (6.0-30.0)	11.6±5.4	11.0 (6.0-29.0)	-3.750	<0.001*
Impulsive tendency	15.1±7.4	14.0 (6.0-30.0)	12.1±5.6	11.0 (6.0-30.0)	-2.714	0.007*
Identity projection	20.3±6.4	20.0 (7.0-30.0)	15.9±5.5	16.0 (6.0-30.0)	-4.506	<0.001*
<i>Total hedonic consumption</i>	93.2±32.0	88.0 (40.0-160.0)	70.9±24.2	69.0 (32.0-159.0)	-4.933	<0.001*
Goal orientation	16.8±5.6	18.0 (5.0-25.0)	17.3±5.6	19.0 (5.0-25.0)	-0.753	0.451
Control orientation	17.8±4.2	18.0 (5.0-25.0)	17.8±4.4	19.0 (9.0-25.0)	-0.130	0.897
<i>Total utilitarian consumption</i>	34.7±9.1	36.0 (14.0-50.0)	35.2±9.8	37.0 (14.0-50.0)	-0.518	0.604
Power of Food Scale						
Food availability	2.8±0.9	2.8 (1.0-5.0)	2.2±0.8	2.0 (1.0-4.7)	-3.925	<0.001*
Food presence	3.2±0.9	3.2 (1.0-5.0)	2.6±1.0	2.5 (1.0-5.0)	-4.123	<0.001*
Food taste	3.1±0.9	3.2 (1.0-5.0)	2.6±1.0	2.8 (1.0-4.8)	-3.102	0.002*
<i>Total PFS</i>	3.0±0.8	3.1 (1.5-5.0)	2.5±0.8	2.5 (1.1-4.3)	-4.038	<0.001*
Hedonic hunger	n	%	n	%	χ^{2***}	p
Yes	104	70.7	35	49.3	9.536	0.002*
No	43	29.3	36	50.7		

*p<0.05 ** Mann-Whitney U² test ***Pearson- χ^2 PFS: Power of the Food Scale

Table 4: Evaluation of Hedonic and Utilitarian Consumption Behavior Scale scores according to hedonic hunger status

	Hedonic Hunger (+) (n=139)		Hedonic Hunger (-) (n=79)			
	$\bar{x} \pm SS$	Median (min-max)	$\bar{x} \pm SS$	Median (min-max)	Z**	p
Hedonic and Utilitarian Consumption Behavior Scale						
Hedonic effect	25.7±6.7	26.0 (10.0-35.0)	17.8±7.6	16.0 (7.0-35.0)	-6.866	<0.001*
Hedonic adaptation	17.4±8.5	15.0 (7.0-35.0)	13.4±6.4	11.0 (7.0-35.0)	-3.341	0.001*
Passivity scale	15.5±6.8	14.0 (6.0-30.0)	11.5±5.6	10.0 (6.0-30.0)	-4.461	<0.001*
Impulsive tendency	15.7±7.3	15.0 (6.0-30.0)	11.3±5.4	11.0 (6.0-30.0)	-4.569	0.007*
Identity projection	20.8±5.9	21.0 (7.0-30.0)	15.4±5.9	15.0 (6.0-30.0)	-5.849	<0.001*
Total hedonic consumption	95.2±29.9	89.0 (47.0-160.0)	69.6±27.1	62.0 (32.0-160.0)	-6.341	<0.001*
Goal orientation	17.5±5.3	18.0 (5.0-25.0)	16.0±6.1	17.0 (5.0-25.0)	-1.768	0.077
Control orientation	18.4±4.0	19.0 (5.0-25.0)	16.9±4.5	17.0 (9.0-25.0)	-2.370	0.018*
Total utilitarian consumption	36.0±8.5	37.0 (14.0-50.0)	32.9±10.4	36.0 (14.0-50.0)	-2.036	0.042*

*p<0.05 ** Mann-Whitney U" test ***Pearson- χ^2

Table 5: Evaluation of correlation between some variables

		Female (n=147)				Male (n=71)			
		BMI	PFS	HCBS	UCBS	BMI	PFS	HCBS	UCBS
Age	r	0.360	-0.203	-0.218	0.048	0.173	-0.168	-0.303	0.131
	p	<0.001**	0.013*	0.008**	0.566	0.150	0.161	0.010*	0.276
BMI	r	1.000	0.226	-0.134	-0.034	1.000	-0.196	-0.039	-0.118
	p	-	0.006**	0.105	0.681	-	0.102	0.749	0.328
PFS	r		1.000	0.390	-0.054		1.000	0.552	0.401
	p		-	<0.001**	0.518		-	<0.001*	<0.001*
HCBS	r			1.000	-0.098			1.000	0.012
	p			-	0.238			-	0.919
UCBS	r				1.000				1.000
	p				-				-

*p<0.05 * Spearman correlation

BMI: Body mass index, PFS: Power of the Food Scale, HCBS: Hedonic Consumption Behavior Scale, UCBS: Utilitarian Consumption Behavior Scale

In the modern world, the nutritional environment has become obesogenic. It has been reported that hedonic nutrition increases the frequency of obesity (16). Understanding the mechanisms of physiological hunger and hedonic hunger in the obesogenic environment may help prevent obesity. In a study where females had a higher PFS score, the mean BMI of females was found to be lower than males, and the frequency of overweight was found to be higher in males (14). In this study, most of the females were normal weight, while the males were overweight. Chmurzynska et al. (2021) found PFS total score, food availability and food presence subscale scores were higher in individuals with BMI >25 kg/m² than in individuals with BMI <25 kg/m² (16). Also, in this study there was a positive correlation between PFS total score and BMI in women ($r=0.226$; $p<0.05$) (Table 5).

In a study, purchasing behaviors according to sex were evaluated and it was reported that men and women were affected differently from advertisements (5). Another study examined sex differences and hedonic consumption was concluded that females see shopping as a social need and make hedonic shopping compared to males and that shopping makes women happier than men (17). In this study, HCBS total and all subscale scores were also higher in females than in males (Table 3). In addition, it was determined that individuals with hedonic hunger were more inclined to hedonic consuming, but not to utilitarian consuming. At the same time, it has been stated that hedonic consumption affects the hedonic hunger of individuals (Table 4). In addition, a positive correlation was found between PFS total score and HCBS score in both sexes, and between PFS total score and UCBS only in men (Table 5).

Hedonic hunger and hedonic eating, which develops as a result of people's feelings towards foods and rewarding themselves with foods, can lead to negative consequences on weight control. People should watch themselves while consuming food, shopping, and whether there is a hedonic perception that can be experienced by analyzing their own behavior. When individuals move away from hedonic eating and control these impulses, their purchasing behaviors will be improved with more accurate hunger signals. It is predicted that directing individuals with hedonic hunger and hedonic purchasing behavior to utilitarian purchasing may have beneficial results in weight control.

CONCLUSION

Understanding the relationship between nutrition and purchasing behaviors will facilitate the understanding of food and non-food consumption preferences and the management of weight control. Furthermore, it will contribute to sustainability in our rapidly depleting world. There is a need for further studies in this area, especially to support utilitarian consumption and sustainability in nutrition.

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Authors' contributions: Nihan Çakır Biçer and İpek Akburak contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

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